Pennichuck Brook Watershed Council
93 Taylor Street
Nashua, NH 03060

603 886-5555 Voice
603 880-1947 Fax
afuller@pennichuck.org

RECEIVED

DEC 0 8 2003

03- 19 WC

Mr. Michael Sclafani
Water Council
New Hampshire of Environmental Services
6 Hazen Road
Concord, NH 03302
603-271-3503 Phone
603 271-8805 Fax

December 8, 2003

Dear Mr. Sclafani:

We are in good faith attempting to protect the drinking water source water and public drink water in the Pennichuck Watershed and in particular the Bon Terrain aquifer and the untreated drink water pumped from the Bon Terrain well. We submitted our petition on December 5, 2003 requesting a hearing with the Water Council so that we could present our concerns about the reasonableness/unreasonableness of the developments that are being permitted in the Bon Terrain aquifer.

Thank you for your call last Friday, December 5, 2003 saying that our petition filed that day had some procedural problems and going detailing the procedures for correcting those defects. As I stated, we are not lawyers, but the science we are presenting is technically solid and that should justify our petition to the Water Council for a more detailed and serious environmental impart study by the Department of Environmental Services regarding the developments in the Bon Terrain aquifer in the Town of Amherst. Please treat this letter as our Cover Letter requesting an appeal to the Water Council and our "Motion to Waiver of Administrative Rules not mandated by RSA's" to correct some defects in our petition.

The defects were:

1. The cover page had "Wetlands Council" rather than "Water Council". Other wise we believe the Petition was correct as filed. I offered to fax a new cover sheet or drive the sheet to Concord. Your comment was that the 1 ½ left in the business day at DES was not sufficient to correct the other defects (which follow).
    a. We had to submit 20 copies of the "Petition" to the Water Council, and Certification that copies were sent/delivered to Commissioner (DES), the Head of the Water Division (DES) and the developer(s). I was prepared to do that.
    b. A second reason was given why that would not make a difference and a waiver motion was necessary. I stated that Friday was the 30th day after

Pennichuck Brook Watershed Council 603 886-5555 Voice
93 Taylor Street 603 880-1947 Fax
Nashua, NH 03060 afuller@pennichuck.org

the decision and everything needed to be in Friday. I told you I thought the decision was signed on November 4th. You said the petition was untimely. I was incorrect about the date the decision was signed. It was signed on November 5th and I was correct that Friday, December 5th was the 30th day.

2. I could have corrected the typographical error on the cover page, certified and mailed copies to those required, and made 20 copies of the document on Friday. It would have been difficult, but it could have been done.

For that reason alone, we are asking for a waiver of the rules because of timeliness of the submission of the petition.

We have some other circumstances that should be brought out for why the petition was not delivered earlier than Friday.

3. We did not receive the signed decision until November 10th.
4. I had a major computer virus and the draft of the petition and all the supporting data were destroyed on my hard drive on November 22nd and I had to wait until December 1st to get the virus in the bios of the computer repaired by replacing the computer processor. Receipts available upon request.

We are submitting the following Monday, December 08, 2003, which is the first business day after the 30th day after the DES decision.

We respectfully request that this Motion to Waiver the timeliness is accepted.

Sincerely,

Allan Fuller, Ph.D., Chairman

Cc: Michael P. Nolin, Commissioner, DES
Harry T. Stewart, P.E., Director
Gretchen Rule, DES Legal Unit
Town of Amherst
Rais/Crest LLC, c/o Prolman Realty

Pennichuck Brook Watershed Council 603 886-5555 Voice
93 Taylor Street 603 880-1947 Fax
Nashua, NH 03060 afuller@pennichuck.org

CERTIFICATE OF SERVICE

I hereby certify that 20 copies of the full Petition packet to the Water Council attached were delivered by hand to NH-DES this day attention Michael Sclafani, Wetlands Commission, New Hampshire Department of Environmental Services, and single copies attention Michael P. Nolin, Commissioner, New Hampshire Department of Environmental Services, Harry T. Stewart, Director, Water Division, New Hampshire Department of Environmental Services, and single copy was sent, *via* first class, United States mail to the Town of Amherst, and Rais/Crest LLC c/o Prolman Realty.

Attachments:

1. Cover letter and Motion for waiver of timeliness.
2. Petition to the Water Council submitted December 5, 2003 with typographical error of Wetland replaced by Water corrected.
3. Request for Reconsideration to Amherst Zoning Board as supporting document.
4. Request for Reconsideration to NH-DES on permits focusing on protection of source water supply.

Dec. 8, 2003
Date, December 8, 2003

COPY
Tom McGreevy, Treasurer

Per Telephone conversation with Appellant on 12/5/03 Do Not file with Wetlands Council. Petition needs correction. Appellant will pick up petition & correct petition & file with the Water Council. 12/5/03 TM

STATE OF NEW HAMPSHIRE
~~WETLANDS~~ Water COUNCIL (TM)

DEPARTMENT OF ENVIRONMENTAL SERVICES
WETLANDS BUREAU
(SEPTIC PERMITS, PUBLIC TRUST DOCTORINE, AND THE REQUEST FOR CONSIDERATION (BELOW))

03- 19 WC

PETITION OF APPEAL OF PENNICHUCK BROOK WATERSHED COUNCIL

NOW COMES the Pennichuck Brook Watershed Council ("PBWC"), and submits this Petition of Appeal of the New Hampshire Department of Environmental Services' ("Department") signed November ~~4~~ 5 (TM), 2003 order denying reconsideration of its decision to grant (quoting form the NH-DES response):

"DES Site Specific Permit #WPS-6467; DES Subdivision Approval #SA2003004123; DES Subsurface Sewage Disposal Septic System Approvals CA2003052543, CA2003052415, CA2003052544, CA2003052428, CA2003052427, CA2003052426, CA2003052546, CA2003052548, CA2003052374, CA2003052545, CA2003052542, CA2003052430, CA2003052423, CA2003052424, CA2003052397, CA2003052378 CA2003052396, CA2003052547, CA2003052429, CA2003052375, CA2003052376, CA2003052377, CA2003052395, CA2003052740, and CA2003052741

By letter dated June 13, 2003, the Pennichuck Brook Watershed Council ("PBWC") requested the Department of Environmental Services, Subsurface Systems Bureau ("DES") to reconsider the issuance of all septic system and other permits related to the proposed Summerfield Condominium development in Amherst, NH ("the Project"). Based on procedural guidance provided by DES, on July 14, 2003, the PBWC filed a Motion for Reconsideration with DES pursuant to RSA 485-A:40, I and II ("the Motion"). The Motion requested DES to review and reconsider issuance of the above-identified individual subsurface disposal system approvals, the above-identified subdivision approval, and the above-identified Site Specific Permit (collectively, "the Permits") issued for the Project. With the exception of the last two listed septic system approvals, all permits were issued to Rais/Crest LLC, in care of Prolman Realty, 100 Elm Street, Nashua, NH 03060. Approvals CA2003052740 and CA2003052741 were issued to TANA Properties Limited Partnership, 40 Temple Road, Nashua, NH 03060."

1. The Pennichuck Brook Watershed Council ("PBWC") filed on June 13, 2003 its Motion for Reconsideration of the above-captioned permit(s) and request that the NH Department of Environmental Services (DES) use the "Public Trust Doctrine" to protect the drinking water for the residents of Amherst and others that use and drink the water coming from the Bon Terrain well. PBWC is a private, non-profit environmental membership organization dedicated to the protection and responsible use of Pennichuck Watershed's natural resources, including Witches Brook, Peacock Broom, the Bon Terrain Aquifer, and the brooks, ponds and subsurface source of drinking water for around 10% of the residents of New Hampshire. PBWC filed its Motion for Reconsideration on the following grounds.

2. We have standing as abutters and parties in interest in this matter as was affirmed by DES in the denial of our motion and as quoted:

Standing

"The first issue to address is whether the PBWC is a person whose rights may be directly affected by the issuance of the Permits. As recited in its June 13 letter, the PBWC is a non-profit organization registered with the State of New Hampshire whose main goal is to protect and improve quality, quantity, and sustainability of the Pennichuck Watershed's water supply. The PBWC draws its membership primarily from the five towns within the Pennichuck Watershed, in which the Project is located. Many of its members draw their drinking water from the so-called Bon Terrain well and Bon Terrain aquifer, which underlies the land on which the Project is proposed to be built, and others are direct abutters to that property. Based on these facts, the PBWC had provided

sufficient evidence that it is a person "directly affected" within the meaning of the statute."

3. The permit issued in this proceeding raises a number of important issues concerning the reasonableness of the permits. We have to assume that DES followed the letter of the rules and RSA's, but common sense says that, when the preponderance of scientific literature and data supports that net harm could and probably will be done to the drinking water coming from the Bon Terrain well as a result of this and other developments on the Bon Terrain aquifer and the "people's water" which DES has an obligation to protect under the public trust doctrine, it is only prudent to proceed with caution and do a full environmental impact study. It must be noted that we are not lawyers and have no financial interest in these developments. Our concern is the health and welfare of the users of the water.

I. The Site Specific Permits:

We will quote the points raised by DES in their denial of our request to consider the whole question of development so close to a public drinking water well.

"The PBWC requested reconsideration of Site Specific Permit #WPS-6467. This permit authorizes the clearing of 100,000 square feet or more of land with appropriate siltation and erosion controls in place. In support of its request, the PBWC cited administrative rule Env-Ws 415.01, which states in paragraph (a) that the purpose of the site specific rules "is to protect surface water quality from degradation resulting from any activity which significantly alters the terrain or occurs in or on the border of the

surface waters of the state." However, DES claims that the PBWC did not provide any testimony or evidence indicating that alteration of the terrain on this site will adversely affect surface waters if the alteration is performed according to the terms of the permit. The PBWC did not cite any conditions in the permit that may be unlawful or unreasonable and did not state how the issuance of this permit was unlawful or unreasonable under applicable statutes or administrative rules. Because the PBWC has not provided any basis on which to find that the issuance of Site Specific Permit #WPS-6467 is unlawful or unreasonable, the request for reconsideration of this permit is ***denied***

Pursuant to RSA 21-O:7, IV and Env-WC 203.02, the PBWC shall have 30 days from the date of this decision to appeal this affirmation of Site Specific Permit #WPS-6467 to the Water Council.."

The "Request for Reconsideration submitted by PBWC was 106 pages in total and referenced an number of letters, reports, and technical information supporting our appeal. The request outlined the impact on full cycle native eastern brook trout and impact of the development to the water quality. We also referenced the crossing of an intermittent stream in correspondence as well which was not mentioned in any of the documents we have seen concerning the site. With regards to the site specific permit and the septic permits, the request discussed the inconsistence of the seasonal high water mark and the high per rates, the type of soil and the scientific literature that warns that this all is a problem. The PBWC believes that there is serious impact to the water quality both during construction and after developments are completed. Trout need to keep the

temperature below 70F and siltation will cover the trout eggs cut off oxygen and cause them to die. NH Fish and Game as the most prolific full cycle trout stream in all NH have documented Witches Brook. Witches Brook is on one side of this development and Peacock Brook runs between the two developments and flows into Witches Brook. Witches Brook is one of the small, but major streams in the very small Pennichuck Watershed, which is the source water of over 10% of the residents in NH.

We think there are technical reasons why the putting of 27 septic systems with over 24,000 gallons of human waste and over 8 million gallons of waste going into the aquifer such a short distance from the Bon Terrain public drinking water well is a problem. The 1993 drinking water situation in Milwaukee where 11 people died and over 100 people got ill and were treated in hospital could happen here. There are other case studies we would like to discuss including the State of NH's own MTBE suit. It is obvious that the current legal interpretation of the letter of the rules is not adequate to protect drinking water wells from MTBE. Not only is the letter of the rule important, but also the intent of the rule is maybe more important. That is were the term reasonable/unreasonable must be considered. The goal is not to have contaminated wells and to insure that the people's water is protected. The current problems with MTBE clearly shows that these are real problems taking place in the real world that show that just applying the letter of the rules related to being unlawful/lawful should not be used as the criteria only to permit septic systems or even site specific permits so close to a public well. Common sense must be employed as well. That is were the unreasonable/reasonable criteria must be employed. We assumed that DES was knowledgeable of the serious of the problem and were aware

of the literature and science involved. We would like the opportunity to make the case to the Water Council since DES did not ask us to justify any of our points and concerns.

II. Subdivision Approval

DES refused to invoke Env-Ws 1006.08. They relied on information provided by Rais/Crest. We walked the property and made a number of observation about the type of soil, the lack of any standing water after very heavy rain for two days, test pits that we totally dry, and a water table that is very close to the surface. After our walk of the property, we received a letter from the lawyer for the developer stating that we would be arrested for trespassing if we went on the property again. We have been unable to collect site information as DES is requesting as proof.

In lieu of physical site information, we referenced scientific reports. There is evidence from California Environmental Protection regarding Stinson Beach north of San Francisco in Marin County where bacteria from septic waste has traveled over 1000 feet into the ocean water polluting the water at the beach. The soil type is very similar to that at the whole Bon Terrain aquifer. There is further evidence and a scientific publication from the Minnesota Department of Natural Resources, which states that high percolation rate soils with the water table close to the surface are very sensitive to pollution problems. We want the opportunity to present that data to the Water Council and discuss the impacts of allowing large quantities of human waste to be put into the septic systems with these soil and water table conditions. Septic systems work well if the waste has residence time in the septic system. The combination of high water table and very

permeable soils make for the high likely hood that the bacteria and other pathologic organisms will migrate out of the septic system before digestion and into the ground water to flow throughout the aquifer in their viable state. These organisms then would be a threat to the health and welfare of some of the people who drink the water. Remember about 10% of the population could drink this water.

The DES says the burden is on the PBWC to prove that damage will be done. We believe the scientific reports support our position and it is reasonable to put the burden on the developer to prove that no net harm will be done. What follows is the response from DES:

"Pursuant to RSA 485-A:29 and Env-Ws 1003.04, persons wishing to subdivide land for the purpose of location, construction and operation of individual septic systems must file plans for such subdivision with DES. The plans must include a description of the property to be subdivided, information on contiguous properties, easements granted, ledge located on the lots, test pit and percolation data, access to each lot, areas unsuitable for sewage disposal, and all surface waters and wetlands on the property, among other information.

Relative to test pits and percolation rates, designers are required to provide information on each test pit dug showing the depth from the ground surface to seasonal high water table, depth from ground surface to impermeable substratum, a description of each soil horizon, and water percolation rates for each test pit dug. Rais/Crest provided

this information to DES, and the subdivision plan was approved by DES. (#SA2003004123). PBWC challenged issuance of the subdivision approval due to alleged inconsistencies between the test pit data and percolation rates submitted by Rais/Crest and information provided by ENSR International, a consulting firm retained by Rais/Crest to analyze the property and potential impacts of the septic systems on the Bon Terrain well area. As a result of these tests, two of the leach fields were moved further away from the well area to provide additional water quality protection. PBWC did not provide specific additional evidence sufficient to demonstrate inaccuracies or inconsistencies in the proferred test pit data. Without additional specific evidence contradicting the information provided by Rais/Crest, DES will not invoke Env-Ws 1006.08"

III. Subsurface Systems Approvals

The DES response to a number of technical points the PBWC made regarding the number of septic systems, total loading, and the other parameters seems very matter of fact. Their response suggests that they followed the rules as justification that the approvals are proper. A committee of soil scientists led by Mr. Steve Huntley (USDA's, Conservation and Natural Resources Service, 603 868-7581 x 113), members from DES and other soil scientists have reworked the density of septic systems and the number of units allowed on soils such as those in the Bon Terrain aquifer. The number one comes up with using their criteria is 46 units. That is less that the 77 units approved for the site. The reduced density recommendations for housing in soils like those in Bon Terrain supports our claim that the Rais/Crest development is unreasonable as currently proposed and is a threat to the health and welfare of the public. We respectively request that we be given

the opportunity to present this evidence before the Water Council. It supports our arguments that the development would be found to be unreasonable once one gets all the facts. What follows is the DES response to our concerns:

"The PBWC has raised numerous issues concerning DES's issuance of the 26 separate septic system construction approvals issued for the Project. These concerns center around the potential impact of septic systems being located over the aquifer which feeds the Bon Terrain well, a source of drinking water for many surrounding residences and businesses, and include issues relating to setbacks, local approval, percolation rates, combined loading, and groundwater protection".

Setbacks

"During the review of these applications, DES was aware that they were part of a larger complex of systems for the Project. Env-Ws 1008.04 establishes minimum distances for setbacks from property lines to, among other things, maintain acceptable levels of nitrates in the groundwater resulting from effluent discharges from individual septic systems. Each individual septic system met the necessary setbacks from property lines independently of each other system. No individual system's setback overlapped any other system's. If setbacks for two or more systems overlapped, DES would treat those systems as one and the setback distances would be determined by their combined flow per Env-Ws 1008.04(e)(8)."

Local Approval

The DES comment quoted below in context states that *"DES accepts the Town of Amherst's approval as evidence that the applicants have met all local requirements relative to construction of sewage disposal systems prior to submitting those plans to DES."* This comment by DES seems to place the burden for the septic system approval on the local approval boards in Amherst. First, the Planning Board and Zoning Board did not consider the impact of the septic systems on the aquifer. The Amherst Zoning Board even admitted (minutes and video of the meeting are available) that they were not even sure if the septic systems approved conformed to the "Water Protection District" requirements. In fact they were not even sure if the development was in the "Water Protection District", which it is. The Amherst zoning ordinances do not allow septic systems in the water protection district. Second, the Zoning Board only considered the senior housing aspects of the development. Third, the Town of Amherst does not have the experts to do such a review. What follow is the DES comments about local approval:

"The PBWC alleges that the septic system permits were unlawfully and prematurely issued as the Amherst Planning Board had not given final approval to the Project. This allegation is based on the requirement of RSA 485-A:29, I that "[a]ny person proposing ... to construct a [septic] system shall submit 2 copies of such locally approved plans as are required by the local planning board...." This requirement must be read together with RSA 485-A:32, II, which states that any person submitting an application and plans for a construction approval shall certify in writing that the applicant has complied with all local government requirements related to water supply and sewage disposal in municipalities where regulations require prior local approval.

The Town of Amherst has requested, and received, authority from DES, pursuant to RSA 485-A:32, I and II, to review and approve local plans to construct septic systems prior to submitting them to DES for review and approval. Each of the septic system plans challenged in this reconsideration was reviewed and approved by the Town of Amherst prior to submission to DES. DES accepts the Town of Amherst's approval as evidence that the applicants have met all local requirements relative to construction of sewage disposal systems prior to submitting those plans to DES. RSA 485-A:32, I and II; Env-Ws 1003.06(aa)."

Percolation Rates

The PBWC has already addressed the fast percolation rates above. It must be remembered that fast percolation rates combined with high water table represents a very serious health risk when combined with high total loading. DES argues that the PBWC must submit more information. We have calculated time of travel (TOT) times for the water to travel from various distances from the Bon Terrain well to the well drawing at about 1 million gallons per day. The time is short and we would like to present this information to the Water Council.

DES's response to our request for reconsideration follows:

"The PBWC further suggests, at Page 11 of its submittal, that the soil in the area "is very dry, even after heavy rains." The PBWC thus questions the accuracy of the percolation rates submitted by the applicants and suggests that Env-Ws 1006.08 should be invoked. This rule states that DES shall require additional test pits to be dug for inspection by DES where data submitted on the applications is internally inconsistent or inconsistent with other information received by DES. However, the PBWC has not

provided sufficient information or evidence to suggest that the percolation rates provided by the applicants are incorrect or erroneous. Without more specific evidence, DES will not invoke Env-Ws 1006.03."

Combined Loading

Of course without a source of pollution, high percolation rates and high water tables will not contaminate the Bon Terrain well. It is this high combined loading to over 8 million gallons of septic material per year that is so scary. The high impervious surface of the developments will produce high run off into Peacock and Witches Brook. Infiltration will be reduced. The Bon Terrain well pumping will produce faster water table streaming especially around the septic systems to the Bon Terrain well. The cumulative effect's of all the septic systems on the Bon Terrain aquifer needs to be analyzed. One must remember that the saying "the straw that broke the camel's back." How much loading from development can the aquifer handle and still be a source of untreated drinking water? As we have stated above and in our "Request for Reconsideration" we have pointed out that it is not only nitrate problems we are concerns about. We are concerned about MTBE, herbicides, pesticides, and pathogenic organism getting to the Bon Terrain well and into the brooks. DES is using rules irrespective to the real threat of unreasonable introduction of high loading and potential harm to the drinking water source water. If current rules were adequate to protect the wells in the State of NH, we would not have the current problem with MTBE. We know it is a problem and denial that it is a problem is unreasonable. Once we know that current rules are not adequate to protect our water supplies, then we have to look at the science and known database of information

and do the right thing conservative thing and protect the source water from contamination using the reasonable/unreasonable criteria. Wanting good drinking water is reasonable. Allowing someone to pollute drinking water in unreasonable. The DES response follows:

"The PBWC requests that DES treat the sewage loading on the subject site as one whole for the site. (Motion at page 12.) However, the PBWC has misunderstood the rule relied upon for this request. Env-Ws 1008.02(a) provides that the maximum allowable design capacity for an individual septic system without a groundwater discharge permit shall be 20,000 gallons per day. In this instance, there are 26 separate septic systems, spread over approximately 46 acres of land. The rule does not apply to this situation because there is more than adequate space for the measured release of filtered wastes from the individual septic systems approved for this project. The PBWC also cites Env-Ws 1504(a)(4), which requires a groundwater discharge permit for an individual septic system with a design flow equal to or greater than 20,000 gallons per day. This requirement only applies to large individual septic systems or groups of systems that exceed 20,000 GPD in order to ensure that the federal secondary drinking water standard is at or below 10 mg/l of nitrate nitrogen (NO_3-N) at the property boundary, and so is inapplicable in this situation."

Groundwater Protection

The PBWC is very concerned about the very small wellhead protection radius. Currently it is just 400 feet around the south and east end of the well. A water study done by ENSR to justify the development was preformed during snowmelt and rain in the spring that

demonstrated that the draw from the Bon Terrain well came from the Rais/Crest land. That is a surprise for all and demonstrates that in the summer the draw will be even from more of the aquifer under the development. A full environmental impact study needs to be done during the summer months to fully understand the impact of these development s on the source water for the Bon Terrain well. The Town of Amherst has rejected to expand it to 1000 feet or more up until now. The current partial 400 foot well head protection is not adequate for well head protection and allows developments too close to the well. That is exactly why the PBWC has requested that the State of NH invoke the Public Trust Doctrine. DES has stated that they have reviewed the septic systems, soils, and flow in order to protect the ground water. We are not sure what "review" means compared to "analyzed" compared to an "Environmental Impact Study". DES's response to this section of our "Request for Reconsideration" is as follows:

"The PBWC raises a number of issues relative to the potential impact on groundwater resources of locating 26 separate septic systems in proximity to the aquifer that serves the Bon Terrain well. RSA 485-C and the rules adopted under that statute address reclassification of groundwater to authorize a wellhead protection program and issues relative to the use and location of certain regulated materials that have the potential to adversely affect groundwater resources. RSA 485-C:7, II (h) provides that septic systems can be potential sources of groundwater contamination. However, nothing in the statute or related rules provides for additional local authority for the regulation of septic systems. In fact, RSA 485-C:6, III recognizes that the authority to regulate discharge of wastewater from individual septic systems, including review, permitting and installation, rests with the DES Subsurface Systems Bureau pursuant to RSA 485-A:29. There are no

specific requirements relative to the review or placement of individual septic systems in RSA 485-C that would apply to the Project. All septic system applications for the Project were reviewed to assure that the systems were properly designed to handle the wastewater load they will receive, and that the soils in the area where they will be installed will allow for proper operation and protection of groundwater supplies. The statutes and rules under which these applications were reviewed are adequate to address the concerns raised by the PBWC relative to protection of groundwater resources."

"The PBWC contends that if the local community has not developed groundwater protection programs of its own to protect local resources, the state should develop a groundwater protection program for this aquifer pursuant to RSA 485-C:1, II. That section states, in applicable part: "Because groundwater is primarily a local resource, cities and towns should have the first opportunity to institute programs for groundwater protection within the scope of this chapter. Suppliers of water should also have this opportunity because of their vital interest in preserving the quality of their groundwater supply. The state, which has general responsibility for groundwater management in the public trust and interest, should develop groundwater protection programs within the scope of this chapter when such programs are not developed by a local entity." It is true that the State has a public trust interest in groundwaters. However, asserting (as the PBWC does) that the Town of Amherst and surrounding communities have not developed or implemented specific local groundwater protection programs is not relevant to whether the septic system permits issued for the Project were unlawful or unreasonable. There is nothing in RSA 485-C that suggests that in the absence of a local groundwater protection program for this aquifer, no septic system permits can be issued. In any event,

DES has developed its septic system design rules (Env-Ws 1000), which regulate the location and installation of septic systems, to provide protection against groundwater contamination. Specifically Env-Ws 1001.01 states: "...the purpose of these rules shall be to prevent pollution of all public or private water supplies, whether underground or surface waters." Accordingly, the rules governing the issuance of the septic system permits in controversy here were developed and are implemented so as to protect all public or private water supplies. Therefore, the PBWC's request to review these permits in light of the public trust doctrine has already been addressed through the septic system review process."

"For the above stated reasons, the Motion to Reconsider issuance of the above-identified subdivision and sewage disposal system approvals is ***denied****.*

Pursuant to RSA 485-A:40, IV, the PBWC shall have 30 days from the date of this decision to appeal this affirmation of the subdivision and septic system approvals by petition to the superior court."

The PBWC believes that the Applicants and DES failed to adequately address the potential impacts of the project to the source water that feed Witches Brook, Peacock Brook, and the Bon Terrain well. The wide spread MTBE contaminated wells through out New Hampshire show that the rules do not work in protecting the ground water. The reasonable part of the rules needs to be looked at. The people and State of NH DES should not allow a valuable drinking water well be destroyed by development. It is not the PBWC's obligation to prove that such a thing will happen. We have demonstrated that such an event is highly probably and have requested that more study is necessary.

We would like to opportunity to present the data and scientific information that supports our position.

The NH-DES never contacted us to discuss out request nor gave us an opportunity to justify our statements or present more supporting information. We assumed that DES was on top of the MTBE problem and the many other bad chemicals and nasty biological materials that could destroy our drinking water because of the unforgiving natural conditions associated with the Bon Terrain aquifer. It must be remembered the Bon Terrain aquifer is an excellent source of drinking water. It is not necessarily and excellent site for intensive developments.

We are not lawyers and therefore our logic is based on commonsense and science. We probably have not made our case using the rules and regulations as well as one could. We do passionately believe that what we are presenting is technically correct and can be supported. We believe that the aquifer will be destroyed by these developments as planned. We request that the following be done:

1. We are given an opportunity to revise our appeal to the Water Council if any part or all is not presented in the proper format or require more references to laws and regulations.
2. That the Water Council temporally takes back the permits challenged in our Request for Reconsideration.
3. Commission a full Environmental Impact Study during the dry summer months looking the impact on the trout, the brooks, and the ground water especially the impacts to the Bon Terrain well.

4. Do a summer (dry season) Time of travel (TOT) and cone of influence study of the water drawn to the Bon Terrain well when pumping at capacity of about 1 million gallons per day.
5. Confirm with a site visit that all the soil test data are correct and consistent.
6. Review and calculate the housing density using the Conservation and Natural Resources Service new criteria for housing density with the proper soil and water table data.
7. Recommend appropriate septic solutions that will not impact the drinking water supply.
8. Request the Wetlands Council rule that the multiple that the Permits granted above during the month the May and June time frame are unlawful and/or unreasonable for the grounds stated above. We think the science for sure supports that they are unreasonable.
9. The Wetlands Council issue specific findings of fact and rulings of law that specify the grounds for and support its rulings; and
10. The Wetlands Council send back the Permits granted and referenced above to the Department of Environmental Services for further reconsideration consistent with its rulings.

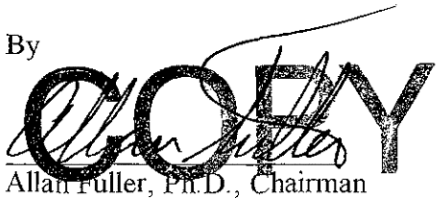
We are attaching our "Request for Reconsideration" to the Department of Environmental Services, the appeals to the Town of Amherst and wish that the information be considered as technical supporting data for this most serious situation. If the State of NH can sue the manufactures for making MTBE and in doing so recognizes that it is a

dangerous chemical, then the State of NH has an obligation to insure that MTBE is give the proper respect and insure that proper handling and protections are being used to protect the wells and groundwater. Thank you for considering this most important appeal.

Respectfully submitted,

Pennichuck Brook Watershed Council

By



Allan Fuller, Ph.D., Chairman
93 Taylor Street
Nashua, NH 03060

Dated: December 4, 2003

STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
RESPONSE TO MOTION FOR RECONSIDERATION

DES Site Specific Permit #WPS-6467; DES Subdivision Approval #SA2003004123; DES Subsurface Sewage Disposal Septic System Approvals CA2003052543, CA2003052415, CA2003052544, CA2003052428, CA2003052427, CA2003052426, CA2003052546, CA2003052548, CA2003052374, CA2003052545, CA2003052542, CA2003052430, CA2003052423, CA2003052424, CA2003052397, CA2003052378 CA2003052396, CA2003052547, CA2003052429, CA2003052375, CA2003052376, CA2003052377, CA2003052395, CA2003052740, and CA2003052741

By letter dated June 13, 2003, the Pennichuck Brook Watershed Council ("PBWC") requested the Department of Environmental Services, Subsurface Systems Bureau ("DES") to reconsider the issuance of all septic system and other permits related to the proposed Summerfield Condominium development in Amherst, NH ("the Project"). Based on procedural guidance provided by DES, on July 14, 2003, the PBWC filed a Motion for Reconsideration with DES pursuant to RSA 485-A:40, I and II ("the Motion"). The Motion requested DES to review and reconsider issuance of the above-identified individual subsurface disposal system approvals, the above-identified subdivision approval, and the above-identified Site Specific Permit (collectively, "the Permits") issued for the Project. With the exception of the last two listed septic system approvals, all permits were issued to Rais/Crest LLC, in care of Prolman Realty, 100 Elm Street, Nashua, NH 03060. Approvals CA2003052740 and CA2003052741 were issued to TANA Properties Limited Partnership, 40 Temple Road, Nashua, NH 03060.

Authority and Standard

The opening language of RSA 485-A:40 states that "[i]f any person submitting plans and specifications to the department for its approval is aggrieved or dissatisfied with its decision, he may file a motion for reconsideration and shall have a right of appeal from the decision of the department ...." However, RSA 485-A:40, I states that "any person whose rights may be directly affected" by any decision of DES may, within 20 days following issuance of the decision, apply to DES for reconsideration.

RSA 485-A:40, II provides, *inter alia*, that a motion for reconsideration "shall set forth fully every ground upon which it is claimed that the decision of [DES] is unlawful or unreasonable." In this proceeding, the burden thus is on the PBWC to prove that the issuance of the permits was unlawful or unreasonable.

Standing

The first issue to address is whether the PBWC is a person whose rights may be directly affected by the issuance of the Permits. As recited in its June 13 letter, the PBWC is a non-profit organization registered with the State of New Hampshire whose main goal is to protect and improve quality, quantity, and sustainability of the Pennichuck Watershed's water supply. The PBWC draws its membership primarily from the five towns within the Pennichuck Watershed, in

which the Project is located. Many of its members draw their drinking water from the so-called Bon Terrain well and Bon Terrain aquifer, which underlies the land on which the Project is proposed to be built, and others are direct abutters to that property. Based on these facts, the PBWC had provided sufficient evidence that it is a person "directly affected" within the meaning of the statute.

Site Specific Permit

The PBWC requested reconsideration of Site Specific Permit #WPS-6467. This permit authorizes the clearing of 100,000 square feet or more of land with appropriate siltation and erosion controls in place. In support of its request, the PBWC cited administrative rule Env-Ws 415.01, which states in paragraph (a) that the purpose of the site specific rules "is to protect surface water quality from degradation resulting from any activity which significantly alters the terrain or occurs in or on the border of the surface waters of the state." However, the PBWC did not provide any testimony or evidence indicating that alteration of the terrain on this site will adversely affect surface waters if the alteration is performed according to the terms of the permit. The PBWC did not cite any conditions in the permit that may be unlawful or unreasonable and did not state how the issuance of this permit was unlawful or unreasonable under applicable statutes or administrative rules. Because the PBWC has not provided any basis on which to find that the issuance of Site Specific Permit #WPS-6467 is unlawful or unreasonable, the request for reconsideration of this permit is ***denied***.

Pursuant to RSA 21-O:7, IV and Env-WC 203.02, the PBWC shall have 30 days from the date of this decision to appeal this affirmation of Site Specific Permit #WPS-6467 to the Water Council.

Subdivision Approval

Pursuant to RSA 485-A:29 and Env-Ws 1003.04, persons wishing to subdivide land for the purpose of location, construction and operation of individual septic systems must file plans for such subdivision with DES. The plans must include a description of the property to be subdivided, information on contiguous properties, easements granted, ledge located on the lots, test pit and percolation data, access to each lot, areas unsuitable for sewage disposal, and all surface waters and wetlands on the property, among other information.

Relative to test pits and percolation rates, designers are required to provide information on each test pit dug showing the depth from the ground surface to seasonal high water table, depth from ground surface to impermeable substratum, a description of each soil horizon, and water percolation rates for each test pit dug. Rais/Crest provided this information to DES, and the subdivision plan was approved by DES. (#SA2003004123). PBWC challenged issuance of the subdivision approval due to alleged inconsistencies between the test pit data and percolation rates submitted by Rais/Crest and information provided by ENSR International, a consulting firm retained by Rais/Crest to analyze the property and potential impacts of the septic systems on the Bon Terrain well area. As a result of these tests, two of the leach fields were moved further away from the well area to provide additional water quality protection. PBWC did not provide specific additional evidence sufficient to demonstrate inaccuracies or inconsistencies in the

proferred test pit data. Without additional specific evidence contradicting the information provided by Rais/Crest, DES will not invoke Env-Ws 1006.08.

Subsurface Systems Approvals

The PBWC has raised numerous issues concerning DES's issuance of the 26 separate septic system construction approvals issued for the Project. These concerns center around the potential impact of septic systems being located over the aquifer which feeds the Bon Terrain well, a source of drinking water for many surrounding residences and businesses, and include issues relating to setbacks, local approval, percolation rates, combined loading, and groundwater protection.

Setbacks

During the review of these applications, DES was aware that they were part of a larger complex of systems for the Project. Env-Ws 1008.04 establishes minimum distances for setbacks from property lines to, among other things, maintain acceptable levels of nitrates in the groundwater resulting from effluent discharges from individual septic systems. Each individual septic system met the necessary setbacks from property lines independently of each other system. No individual system's setback overlapped any other system's. If setbacks for two or more systems overlapped, DES would treat those systems as one and the setback distances would be determined by their combined flow per Env-Ws 1008.04(e)(8).

Local Approval

The PBWC alleges that the septic system permits were unlawfully and prematurely issued as the Amherst Planning Board had not given final approval to the Project. This allegation is based on the requirement of RSA 485-A:29, I that "[a]ny person proposing ... to construct a [septic] system shall submit 2 copies of such locally approved plans as are required by the local planning board...." This requirement must be read together with RSA 485-A:32, II, which states that any person submitting an application and plans for a construction approval shall certify in writing that the applicant has complied with all local government requirements related to water supply and sewage disposal in municipalities where regulations require prior local approval. The Town of Amherst has requested, and received, authority from DES, pursuant to RSA 485-A:32, I and II, to review and approve local plans to construct septic systems prior to submitting them to DES for review and approval. Each of the septic system plans challenged in this reconsideration was reviewed and approved by the Town of Amherst prior to submission to DES. DES accepts the Town of Amherst's approval as evidence that the applicants have met all local requirements relative to construction of sewage disposal systems prior to submitting those plans to DES. RSA 485-A:32, I and II; Env-Ws 1003.06(aa).

Percolation Rates

The PBWC further suggests, at Page 11 of its submittal, that the soil in the area "is very dry, even after heavy rains." The PBWC thus questions the accuracy of the percolation rates submitted by the applicants and suggests that Env-Ws 1006.08 should be invoked. This rule states that DES shall require additional test pits to be dug for inspection by DES where data submitted on the applications is internally inconsistent or inconsistent with other information

received by DES. However, the PBWC has not provided sufficient information or evidence to suggest that the percolation rates provided by the applicants are incorrect or erroneous. Without more specific evidence, DES will not invoke Env-Ws 1006.03.

Combined Loading

The PBWC requests that DES treat the sewage loading on the subject site as one whole for the site. (Motion at page 12.) However, the PBWC has misunderstood the rule relied upon for this request. Env-Ws 1008.02(a) provides that the maximum allowable design capacity for an individual septic system without a groundwater discharge permit shall be 20,000 gallons per day. In this instance, there are 26 separate septic systems, spread over approximately 46 acres of land. The rule does not apply to this situation because there is more than adequate space for the measured release of filtered wastes from the individual septic systems approved for this project. The PBWC also cites Env-Ws 1504(a)(4), which requires a groundwater discharge permit for an individual septic system with a design flow equal to or greater than 20,000 gallons per day. This requirement only applies to large individual septic systems or groups of systems that exceed 20,000 GPD in order to ensure that the federal secondary drinking water standard is at or below 10 mg/l of nitrate nitrogen (NO_3-N) at the property boundary, and so is inapplicable in this situation.

Groundwater Protection

The PBWC raises a number of issues relative to the potential impact on groundwater resources of locating 26 separate septic systems in proximity to the aquifer that serves the Bon Terrain well. RSA 485-C and the rules adopted under that statute address reclassification of groundwater to authorize a wellhead protection program and issues relative to the use and location of certain regulated materials that have the potential to adversely affect groundwater resources. RSA 485-C:7, II (h) provides that septic systems can be potential sources of groundwater contamination. However, nothing in the statute or related rules provides for additional local authority for the regulation of septic systems. In fact, RSA 485-C:6, III recognizes that the authority to regulate discharge of wastewater from individual septic systems, including review, permitting and installation, rests with the DES Subsurface Systems Bureau pursuant to RSA 485-A:29. There are no specific requirements relative to the review or placement of individual septic systems in RSA 485-C that would apply to the Project. All septic system applications for the Project were reviewed to assure that the systems were properly designed to handle the wastewater load they will receive, and that the soils in the area where they will be installed will allow for proper operation and protection of groundwater supplies. The statutes and rules under which these applications were reviewed are adequate to address the concerns raised by the PBWC relative to protection of groundwater resources.

The PBWC contends that if the local community has not developed groundwater protection programs of its own to protect local resources, the state should develop a groundwater protection program for this aquifer pursuant to RSA 485-C:1, II. That section states, in applicable part: "Because groundwater is primarily a local resource, cities and towns should have the first opportunity to institute programs for groundwater protection within the scope of this chapter. Suppliers of water should also have this opportunity because of their vital interest in preserving the quality of their groundwater supply. The state, which has general responsibility for groundwater management in the public trust and interest, should develop groundwater

protection programs within the scope of this chapter when such programs are not developed by a local entity." It is true that the State has a public trust interest in groundwaters. However, asserting (as the PBWC does) that the Town of Amherst and surrounding communities have not developed or implemented specific local groundwater protection programs is not relevant to whether the septic system permits issued for the Project were unlawful or unreasonable. There is nothing in RSA 485-C that suggests that in the absence of a local groundwater protection program for this aquifer, no septic system permits can be issued. In any event, DES has developed its septic system design rules (Env-Ws 1000), which regulate the location and installation of septic systems, to provide protection against groundwater contamination. Specifically Env-Ws 1001.01 states: "...the purpose of these rules shall be to prevent pollution of all public or private water supplies, whether underground or surface waters." Accordingly, the rules governing the issuance of the septic system permits in controversy here were developed and are implemented so as to protect all public or private water supplies. Therefore, the PBWC's request to review these permits in light of the public trust doctrine has already been addressed through the septic system review process.

For the above stated reasons, the Motion to Reconsider issuance of the above-identified subdivision and sewage disposal system approvals is ***denied***.

Pursuant to RSA 485-A:40, IV, the PBWC shall have 30 days from the date of this decision to appeal this affirmation of the subdivision and septic system approvals by petition to the superior court.

Date: November 5, 2003

COPY

Harry T. Stewart, P.E., Director
Water Division
Department of Environmental Services

cc: Michael P. Nolin, Commissioner, DES
Gretchen Rule, DES Legal Unit
Town of Amherst Board of Selectmen
Town of Amherst Planning Board
Rais/Crest LLC c/o Prolman Realty

Motion for Rehearing - Appeal and Request for Reconsideration of Zoning Board Decision on Rais-Crest/Summerfield Condominiums made on Oct. 21, 2003.

Filed on November 19, 2003

This appeal [Per RSA 677:2 Motion for Rehearing] is a request for reconsideration of the Zoning Board of Adjustment (ZBA) decision on October 21, 2003 denying all parts of our appeal on Rais-Crest/Summerfield condominiums development except that related to the manner in which the planning board did not keep the original conditions set by the ZBA on the site plan.

RSA 677:3 (Rehearing by Board of Adjustment) requires an aggrieved party to file a new Motion For Rehearing that raises any new issues that result from the granting of an earlier Motion For a Rehearing.

This reconsideration request pertains to appeals related to the planning board decision on Rais-Crest/Summerfield Condominiums, Map 2/Lot2 & 26, Route 122, Amherst, NH. This request for reconsideration is submitted to the Amherst Zoning Board on November 19, 2003.

Summary of concerns:

We are deeply concerned over the impact the Oct. 21, 2003 ZBA decision has on reducing the power of our town ordinances to protect the Pennichuck Brook Watershed aquifer and Bon Terrain Well from pollution from this 77 unit development, as well as the ability for this decision to be interpreted as a lack of interest in overall water quality protection in Amherst for future site plan developers.

We believe that this ZBA decision was made in haste, without full information, that information presented that night was new to most ZBA board members, and that most were unfamiliar with some of the ordinances raised as part of the question of error in interpretation. Statements made that night by ZBA members indicated this. So we ask for a reconsideration.

In addition to that portion of our appeal that was upheld for public hearing by the ZBA, which argues that the ZBA set footprint sizes on the residential units that were ignored by the planning board and so should be reconsidered, we submitted portions asking for reconsideration of the entire planning board decision due to their error in interpretation of the zoning ordinances that relate to watershed, wetland and aquifer protection.

Our position was that the planning board had ignored and misinterpreted provisions in some of these ordinances, including specifically the Watershed Protection Ordinance, which allows for full protection of lands in high water tables and ecologically fragile areas from building or other harmful impacts. This ordinance was not correctly interpreted by the planning board and we asked that the zoning board review that decision.

Case law has sited that the Zoning Board also has been established for the satisfactory resolution of many of these situations without burdening the courts.
RSA 677:3 (Rehearing by Board of Adjustment) requires an aggrieved party to file a new Motion For Rehearing that raises any new issues that result from the granting of an earlier Motion For a Rehearing. If an applicant did not have to file a second Motion For Rehearing when conditions changed, the board would not have an opportunity to correct any errors that it may have made and the Superior Court would be limited to consideration of errors alleged in the original rehearing motion.
Further, [Plaintiff was denied relief by the ZBA on a procedural basis. ZBA granted motion for rehearing reversing itself on the procedural denial, but denying the request on a substantive basis. Plaintiff did not file an additional motion for rehearing, but appealed directly to the Superior Court. The Superior Court dismissed the appeal on the basis that the Plaintiff should have flied a second motion for rehearing.
The Plaintiff took the position that under Shaw v. City of Manchester, 118 N.H. 158 (1978) only one Motion For Rehearing need be filed. The Supreme Court found that the law was unclear and while indicating that from this point forward a second motion for rehearing must be filed if the reason for denial is changed, the Plaintiff was allowed to go back to the board and file a motion for rehearing.]

Case law allows the ZBA to review the whole application and correct its own mistakes. (Fisher v. Boscawen 121 NH 438, 1981 - The court held that the ZBA may use the rehearing process to correct its own mistakes and decide that the original reason for denial was erroneous and proceed to consider the application again.)

We ask that ZBA now reconsider their decision.

Full Request:

We request that the ZBA review the whole Rais Crest/Summerfield/TANA project. The ZBA has accepted part of our appeal because the Planning Board did not follow the letter of the Variance granted by the ZBA on November 19, 2002

The Zoning Board has a responsibility to protect the drinking water, public health, and environment in Amherst.

[Per RSA 674:16, the Zoning Board has been granted power for the purpose of promoting the health, safety, or the general welfare of the community. In particular, RSA 674:17 (c) (to promote health) and (h) (assure proper use of natural resources and other public requirements) among other statutes give the Zoning Board the obligation to insure that proper land use as defined by the general statement of objectives and master plan described in RSA 674:2, I and II and the zoning ordinances are followed.]

But the questions raised by some members of the ZBA at their October 21, 2003 meeting relating to facts presented that evening demonstrated their lack of awareness of the specifics of certain ordinances, which hindered their ability to carry out their duties under the law.

One ordinance in particular, the Watershed Protection District ordinance, they admitted a lack of understanding of and asked many pertinent questions about. These questions and their statements suggested that the information we have been trying to draw to the Zoning Board's attention only began to be assimilated at this October meeting.

Therefore their final decision on October 21, 2003 was without enough grounds or understanding and we ask for reconsideration.

RSA 674:33, RSA 674.16, RSA 676:5, RSA 674:33, and RSA 676:4 authorize the Zoning Board to consider this matter and give the Zoning Board the responsibility of doing so, including the authority and responsibility to enforce local ordinances which include, in this case, Article III, Section 4-12:Watershed Protection District.

A full public hearing is the only reasonable and responsible way of airing this matter which raises serious questions about pollution impacts on the Amherst public drinking water system and ecology by the development in question.

Specific statements:
The ZBA expressed concern on Oct. 21, 2003 that the Watershed District Ordinance may have been an ordinance that should have been considered from the beginning of the process of consideration on the condominium site plan.
The chairman, Susan McCarthy, stated that it is possible that the developers should have appeared asking for a variance from that ordinance, along with the elderly housing exceptions they were looking for, at the very start.
More than one board member was unsure if the Rais Crest development was in the Watershed District and another questioned whether the septic systems were allowed.
The board also acknowledged Dan Weldon's statement near the end of the evening, and did not contend it.
Mr. Weldon said that the board had previously met and decided that the motion to dismiss would not be considered by the board, it would only be folded into the actual appeal we had filed.
Zoning board Member Dan Weldon said that was the reason he was abstaining from voting.
The Chairman simply replied that he should have raised that point earlier in the evening when the agenda was being discussed.

These various comments, along with many other questions and comments by the board indicated that they need a public hearing in order to give full and proper consideration to the question of whether this condominium development jeopardizes the public health by its potential for drinking water pollution, while it could damage a fragile ecosystem, and whether the planning board misinterpreted the zoning ordinances.
This appeal of the Zoning Board was initially due to the neglect of the Planning Board to adequately apply the protections offered by the Watershed Protection District and Aquifer Conservation District sections (attached) in the Zoning Ordinance of the town of Amherst when rendering their decision on Rais-Crest Condominiums. We ask that the zoning board not make the same mistake.

It was proper for the Amherst ZBA to accept our appeal of the Planning Board approval of Rais Crest for the reason that an administrative official must apply the ordinance and variance as it is written and cannot waive provisions.
[Per RSA's 672-677, the Planning Board cannot adopt or enforce the zoning ordinances. The legislative body must follow statutory procedures in enacting the ordinance and that includes any variances granted by the ZBA. The administrative official must apply the ordinance as it is written and cannot waive any provisions.]
But, the ZBA, October 21, 2003, decision ignored there responsibility granted under state RSA law and court opinions to protect our water supply and we ask that our full appeal, including all addendums and amendments, as filed with the Zoning Board, be given public hearings and be reconsidered by the Zoning Board.

We further assume that all previous documents from previous appeals on this that we submitted to the Zoning Board be incorporated in this request for reconsideration.

The appellants ask that the Zoning Board:

- hold public hearings;
- determine if these acres fall under the Watershed Protection Ordinances due to their streams, wetlands, high water table, role in protecting wildlife and drinking water quality.
- ask for additional study on all items that are determined to have a lack of understanding and an appropriate level of investigation, including chemical and infectious pathogenic organism pollution from leachfields; the need to include the fast percolation rates and soil conditions in any scientific assessment of organic (MtBE, etc.), inorganic (nitrate, etc.) and pathogenic (virus, bacteria, amebic dysentery, etc.) loading; sedimentation impacts on water quality and wildlife; wetland encroachment and improper measurements; water supply levels; impact on the Bon Terrain Well drinking water.
- assess all pertinent data related to the application of these ordinances;
- and determine if the Rais-Crest condominium development should be allowed under these ordinances.

- If the Zoning Board determines it should not be allowed based on full application of these ordinances, then they shall overturn the planning board's decision.
- If the Zoning Board determines that the development should proceed, then we would ask that additional mitigations be added to restrict the impacts of sedimentation on water quality, fish and other wildlife; That alternative pretreatment sand filter systems be used for septic effluent filtering to restrict leachfield pollution; that all wetlands buffers be protect encroachment, among other mitigating requirements.

Appeal Information:

I. Address of land and development in question as cited in posting of hearing:
NRSR and Subdivision to Condos
Map 2/Lot2 & Map 2/Lot 26
Route 122, Amherst, NH 03031
Tana/Rais-Crest

II. Appellants (Applicants) Names:
Abutter: Nancy Scott _____ Date: _____
Address of Applicant: _____

Telephone: work _____ home _____

Abutter: Reginald Scott _____ Date _____
Address: _____

Other Appeal Applicants:
2) Pennichuck Brook Watershed Council
Signed: Dr. Allan Fuller, President _____
Address: _____
Telephone: _____

3) Peggy Miller, resident _____ Date: _____

81 Christian Hill Road, Amherst, N. H. 03031
603-672-3758

III. Purpose of Request:

1. Hardship: Features of the development, if agreed to, that will adversely affect the effect abutters property or deny them reasonable use:

The impact of the development could pollute the aquifer and the Bon Terrain well that provides drinking water to Amherst residents. Also use of the rivers for fishing and recreation in that area will be altered if not eliminated. Noise will also drive out the wildlife, changing the natural beauty of the area.

2. Spirit and Intent: How does the planning board decision violate the spirit and intent of the ordinances?

The Watershed Protection District ordinance (was Section 4-12, 2002 copy) was created to protect watershed areas with high water tables and lands draining into wetlands, brooks, ponds or supply areas; this land qualifies under this section.

It also is to control building, which would contribute to pollution of surface and groundwater; to prevent destruction of watershed areas which provide flood protection. It includes lands where filling or relocating will destroy habitats and reproduction areas for plants, fish and wildlife of importance. The development in question, approved by the Planning Board, will pollute the groundwater, possibly to a level that will cause public harm and illness, cause harm to the natural ability to absorb flood waters, and could kill the wild brook trout population, other fish, and beaver, that lives in Peacock and Witches Brook waters.

The Aquifer Conservation District Ordinance (was Section 4-13, 2002 copy) was designed to protect the water supply and quality for the health and safety of the town's citizens. The water supply is also to provide an ecological balance of the natural environment of the Town. These waters, whether above or belowground, are to be protected, conserved and managed for future generations and are to be protected from contamination by polluting, hazardous or toxic materials.

The Rais-Crest condominium development will pollute the water with nitrates, viruses, and toxics, and eliminate natural protections of its supply levels and its water quality and ability to be used as a drinking water source. The ordinance says these water are finite and need to be protected. The development will cause pollution, sedimentation, destruction of necessary buffers and wetlands that protect the quality, and destruction of recharge capability. The Bon Terrain Well will be impacted and thus the users of that well will be impacted adversely.

3. Impact on Property values if Planning Board decision is not revoked:
Property values will diminish from loss of natural beauty of the area, from pollution of the water supply, and loss of recreational and wildlife attributes of the area.

4. Public Benefit:
If the Zoning Board stays the Planning Board decision and decides that the development of Rais-Crest is not to be allowed, then all users of Bon Terrain Well water, approximately 783 in the town at the present time, as well as all users of the aquifer, including those in Hollis, Milford, Merrimack and Nashua, will be protected from increased nitrate and infectious biological pathogens in the aquifer. And the cost of water will remain lower for all users on the Pennichuck water system because clean up will not be necessary due to pollution from the development.

5. Substantial Justice: If the Zoning Board decides against the development justice of equity will be granted to the applicants. The solution will provide a fair and equitable approach to maintaining the water and natural resources for all to enjoy.

6. Current Use: The current use of this land is as open, privately held, space that wildlife live in, that is a strong protector of the water supply and an excellent recharge source for the aquifer beneath. If the Planning Board decision is upheld and a 77 unit condominium development is allowed there, then all of that will be lost.

We hereby acknowledge that the above stated is true.

Applicants:

_____ Date:_____

_____ Date: _____

_____ Date: _____

_____ Date: _____

Richard J. de Seve
Compliance Supervisor
DES Subsurface Systems Bureau
New Hampshire Department of
Environmental Services
6 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095

603 271-3501 Voice
603 271-6683 Fax

July 10, 2003

Dear Mr. de Seve:

The Pennichuck Brook Watershed Council (PBWC), its members, abutters, and concerned citizens of the region thank NH DES for allowing us to clarify our Request to Reconsider both the Summerfield Condominium and the TANA/Webb permits and projects. What follows will be our best non-lawyer response to the following:

"DES requests that you submit the following supplemental information in writing, not later than July 10, 2003:

1) Fully set forth each ground on which you believe the decisions to issue the subdivision, septic system, and Site Specific permits were unlawful or unreasonable; and

2) Support your contention that you have standing to pursue the reconsideration (*i.e.*, that you may be directly affected by the decisions)."

We will address the question of standing (2, above) before we address the more comprehensive response to (1, above).

The Pennichuck Brook Watershed Council was formed in 2002 by a group of concerned citizens, elected state and local officials to attempt to put reasonable control to the rapid growth inside the Pennichuck Watershed. The growth in this watershed has been rapid and progressively encroaches into the watershed. We worked with Nashua Regional Planning Council (NRPC) to assess the buildout that is taking place, what lands and buffers are in place, what lands and buffers could be purchased, and identify critical aquifers, surface waters, buffers that need to be protected. If these elected officials and state organizations were doing proper diligence on development and protecting the environment, we would not have had a need to come together nor would we be doing this request for reconsideration. There was and is a lack of organized entities whose sole mission is to protect these vital resources.
We, as a group of concerned citizens with standing, have stepped up to the plate and are demanding that these resources be protected.

/

We have standing for the following reasons:

1. We drink the water from the watershed and the destruction or degradation of the watershed would be affecting drinking water quality, quantity, and sustainability, which affect us all.
2. Some of us get our drinking water from wells dipping those straws in the aquifer that could be impacted by these developments.
3. Some of us drink the water directly from the Bon Terrain well.
4. Some of us drink that water via Pennichuck Water Works through their treatment plant.
5. The Bon Terrain well is interconnected with the Pennichuck Water Works system so that water could be going to any customer supplied by Pennichuck Water Works by this system.
6. Some of us are direct abutters to the development.
7. Some of us are residents of Amherst.
8. Some of us have paddled Peacock Brook.
9. Some of us have observed trout being caught out of Peacock Brook between and adjacent to the two projects.
10. Some of us have fished Witches Spring Brook and/or Peacock Brook for trout.
11. A number of people with abutter status and other reasons for direct standing have signed a petition requesting that the Pennichuck Brook Watershed Council represent them.
12. A number of people with abutter status and other reasons for direct standing have become members of the Pennichuck Brook Watershed Council and as such have joined together to give the Pennichuck Brook Watershed Council standing.
13. The Pennichuck Brook Watershed Council for these reasons and others has standing in this and future appeals.

We have been told by lawyers, NH-DOJ, and a law school professor that the above 13 reasons are valid.. We will be pleased to clarify and site case law about our standing if DES has any questions pertaining thereto. What follows is our attempt to clarify question (1) about why we think the approvals to the projects are either unreasonable and/or unlawful.

It is clear that the State of New Hampshire has a moral and legal obligation to protect the surface and subsurface waters of the state for, at the very minimum, the current drinking water use of the people of the state. It is also clear that the state needs to protect the present and future sources of drinking water for future generations. The State of NH needs to be as proactive in protecting our drinking water supplies as they were in using the Public Trust Doctrine in controlling the adverse effects perceived in the proposed expansion of Loon Mountain Ski area a few years back. (See AG opinion on Public Trust Doctrine, ~1989, Loan Mountain case, and DOJ opinion, February 11, 1998, attached, other DOJ opinions support our position and concerns)

We will attempt to sight some of the RSA's, Rules, common sense, common law, Public Trust Doctrine, and scientific evidence to help support our positions, questions, and concerns as we proceed. The State's obligation is spelled out in numerous court rulings, state laws and

rules, as well in local rules and regulations. The building of commercial and high density housing using septic systems as well as the storage of chemicals and fuels on site, the use of toxic materials, fertilizers, pesticides, and herbicides is of critical concern especially when potential impacts to a valuable public drinking water aquifer, an operational public well in the very near vicinity, and two more wells down gradient from these sites are a part of the considerations. One must remember that the clean up that still continues of the Merrimack well #6 at the Merrimack Metals location has cost the taxpayers over $1 million dollars and climbing.

In this case, the TANA/Webb and the Summerfield Condo sites are right over a precious high yield aquifer and border the public drinking water well. No developer, landowner, individual has the right to pollute their property and allow that pollution to cross property lines and pollute another's property, surface water, or ground water, air, or restrict light, etc. This should have some application under our states nuisance laws.

It is, at the very least, a public nuisance and cannot be allowed. Polluting the ground water or the surface water or killing our native wild eastern brook trout through siltation or increasing a trout stream's water temperature above 70 degrees Fahrenheit is not a right of any landowner or developer and requires state intervention to protect the public good.

We are asking the NH-DES to protect our current drinking water supplies and that of future generations of New Hampshire citizens. This is not an anti developer stand. This a logical, common sense position that it is the obligation of the State of NH to undertake as the protector, guardian and trustee of the people's water resources. It is an obligation that is based on ethics, no net harm, the public good, and codified through the Public Trust Doctrine . If this were a set of developments that did not impact the public water supply today and in the future, we would not be coming here before you making this request for reconsideration. The questions that need to be asked are not only those above and contained herein, but also why should a thorough and comprehensive evaluation of these serious environmental risk factors not be standard operating procedure for our state agencies.

We have specific concerns about the septic permits associated with the Summerfield Condo site. We are very concerned with the lack of consideration of cumulative impacts of these sites on the Bon Terrain well and the aquifer. The 27 septic permits were approved one at a time on the Summerfield Condo site without any apparent consideration for the intra-consistency between the design intent of each to each other and the know elevation of the water table in the area. There is attached an Excel spreadsheet that tries to show the intra-relationship of the different requests. More work needs to be done and that too is part of the reason for our request for reconsideration to NH-DES.

There is significant scientific literature that correlates high water tables and high porosity of the soil to unacceptably high risk. See the attached documents covering these points.

There is an unavoidable need to look at the cumulative impact of these developments on the aquifer, the public drinking water supply well, Peacock, Witches, and Pennichuck Brooks, and the Bon Terrain Lands as a whole. To treat each separately and ignore the total

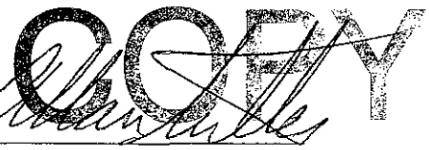
environmental impacts is to disregard the time proven truth of the old saying "the straw that broke the camel's back." The approval of each of these site specific permits, septic permits (more than 8 million gallons of septic waste being dumped into the aquifer each year), wetlands permits, etc., the risk management associated with the storage of 12,000 gallons of diesel fuel on top of the sensitive aquifer, the handling of hazardous chemicals at a very large (400,000 square foot) warehouse facility, truck storage, cars, fertilizer, pesticides, herbicides, etc. astride this same aquifer is against common sense and the spirit and legislative intent evidenced by a considerable body of statutory laws. It should be pointed out that even DES recognizes oil contamination of groundwater as a serious problem. Quoting from the 2001 State of the New Hampshire environment "It takes only one pint of oil to produce a one-acre oil slick or one quart to contaminate 250,000 gallons of groundwater."

The drinking water quality, quantity, and sustainability in the Nashua Region is a serious and significant problem currently. Last year the water in the Pennichuck Ponds had a very serious algae bloom and the drinking water coming from the Pennichuck Water Work's treatment plat failed to meet the EPA turbidity drinking water standards. The water supply in the Pennichuck Brook Watershed is being tapped beyond capacity to supply water for the Nashua Region as measured by the 17 million gallons of water that is piped from the Merrimack River into the chain of Pennichuck ponds in order to supplement our surface and ground water needs today. To further imperil or destroy this valuable source of water by permitting insufficient oversight of development activities is not in the public interest or the public good. It is short sighted and against common sense. It is also contrary to the Pubic trust Doctrine that has been so well defined by the NH Department of Justice and a number of RSA's. To suggest that NH-DES just has to use a checklist and approve permits that meet the check list is not representative of the intent of our elected representatives, our laws, or the understanding of the general public as to what the purpose and function of our state government and agencies is reliably expected to provide.

We will site specific DES documents, RSA's, rules, court rulings, and NH DOJ opinions, etc. as we continue to support our positions.

We have attached a number of documents that should help support our case. There is much more we could cover such as the attempt to build a By-Pass in the 80's through this aquifer and a waste treatment plant ~1986, all of which fail for environmental reason. Please ask us to clarify anything that you do not understand or needs addition explanation. If any of this response has a defect, we request the parts that are proper be accepted and that we be given the ability to correct that defect in a reasonable time frame. Remember we are not lawyers, but just concerned citizens.

Respectfully submitted,

By  Date July 14, 2003

Allan Fuller, Ph.D.
Chairman
Pennichuck Brook Watershed Council

Co-signed by other members

Nancy and Reggie Scott, Citizen of Amherst, Abutter

George Woodbury, Citizen of Hollis

Chris Wallen, Citizen of Hollis

Peggy Miller, Citizen of Amherst, NH

Malcolm M. Lowe, Mayors representative Nashua City Planning Board, Nashua, NH

Mary Ellen Martin, NH State Representative, Hillsborough County District 34, Nashua

Roland J. Lefebvre, NH State Representative, Hillsborough County District 31, Nashua

Michael Balboni, NH State Representative. Hillsborough County District 27, Nashua

Additional co-signers on request

Our Statutory References to Our Request

Request for Reconsideration of Permits Granted By DES for Summerfield Condominiums Residential Project and F W Webb Commercial Project

Chapter 485 - New Hampshire Safe Drinking Water Act

In RSA 485:1 it states that "the purpose of this chapter is to provide a comprehensive drinking water protection program for the citizens of N.H." and that "DES shall provide technical assistance to ...the general public." We bring our concerns and questions to you relying on that assistance. It further makes reference to the departments responsibility to review the designs of alterations for existing public water systems and to periodically conduct sanitary surveys . Our concerns here presented portend alteration to the Bon Terrain public water supply system by the proposed developments to what has been known as the Bon Terrain Lands which include, but are not limited to , the projects called Summerfield Condominiums and the F.W. Webb proposal. Does not the fact that this 56 ft. deep well will be expanded by a water line under Peacock Brook to additionally serve the proposed 77 unit Summerfied development also constitute an 'alteration'?
We submit that a review of the cumulative impacts of proposed developments to these lands does, in fact, strongly indicate that it is reasonably probable that proper safety of the public water supply will not be maintained.
We request that the department conduct a survey to ascertain whether these concerns are indeed valid and whether the various probable impacts rise to the level of being within the jurisdiction of the states Public Trust Duties.

While RSA 485:3 states that the state shall adopt rules to protect the public health and may adopt rules to protect the public welfare, we proceed with the confidence that, indeed, both of these parameters are adequately and equally operable in your considerations and that II, alluding to "any contaminant in drinking water which may ...adversely affect the public welfare", will be comprehensively evaluated to reasonably assure the protection of the public's health and welfare.

RSA 485:3, X states that "..rules shall include criteria and procedures to ensure that past and present underground injection will not endanger drinking water sources, and shall provide for consideration of varying geologic, hydrologic, or other conditions in different areas of the state." While the septic systems proposed may not constitute a "program" as referenced in the prior sentence in this section, they do nonetheless constitute an 'injection' of septage waste leachate into the ground water.

RSA485:3, XII would further validate that the legislative intent is "to ensure long-term viability of public drinking water systems..." .

Chapter 485-A – Water Pollution and Waste Disposal

RSA485-A:1 states "The purpose of this chapter is to protect water supplies, to prevent pollution...and to prevent nuisances and potential health hazards." and that the department shall be governed by these criteria. Accordingly, we question whether the owner's pollution of their lands, when resulting in impacts to the publics waters can reasonably be expected, is not a jurisdictional issue and would also qualify as a nuisance. Would not eight million gallons of effluent per year discharged into the soils above such a fragile aquifer, very near the public water supply well, and abutting Peacock Brook which flows into the surface waters of the Pennichuck Brook water supply system, be considered unreasonable or excessive "pollution" to such a locally and regionally vital public asset?

We question the fact that 27seperate residential septic permits have been issued for the Summerfield project when, at this time, you have but a single commercial entity coming before you to request permission to discharge 24000gal/day into this fragile site. Would it not be more appropriate to review and evaluate the whole project for issuance of a single permit to discharge and then, if that is found acceptable, to evaluate multiple single septic tank permits which are directed at an expected future end? In questioning this we have been told that the department is not "required" to consider it as one entity/discharge.

While we are aware that 27 permits likely bring in considerably more revenue to the department than a single permit, we are not aware of any statutory mandate that requires same, neither are we aware of any citation which states that it is proper to break a single project up into component parts for permitting purposes.

We believe that the septic and site specific permits need to be reconsidered for a number of technical reasons. (See, Concerns About Septic and Site Specific)

Accordingly, we feel very strongly that this project should be permitted as one discharge and it's impacts evaluated in that context as well as in the context of the proposed project's contribution to the serious cumulative impacts to these fragile lands.

RSA485-A:13, I (a) references that "DES shall include in such permits effluent limitations, which may be based upon"
a) " economic and technological factors,"
(the taxpayers of the region would not favor the 'factors' that may impact their wallets in the costs, technology, and equipment needed in having to clean up pollution of their waters or having to seek an additional water source or treatment modalities because of contamination resulting from poor decisions and/or oversight in the protection of their asset. This is not to mention costs to the state if it can be determined that these costs resulted from their failure to exercise due diligence in carrying out their statutory mandates.)
b) "the classification enacted by the legislature,"
(These are Class A surface waters and, per RSA485-A:8, "It shall be the overall goal that all surface waters toattain and maintain specified standards of water quality to achieve the

purposes of the legislative classification." There shall be no discharge of sewage into Class A surface waters.
Additionally, these waters would qualify as either GAA or GA1 in groundwater classification. [#PS] We're told that only 8-10 communities have availed themselves of the program, which enables them to do this groundwater classification work for DES. If the five communities with interests in this aquifer have not done this work, should this not be done by DES in evaluating the issues here presented?) [#see485-C:9,I]
c) "the projected best use of the surface water downstream...."
(which is currently and obviously as a drinking water supply)
d) "or....whichever provides the most effective means to abate pollution."

It further states that no permit shall be granted.....in any case in which DES determines that the grant of a permit would be inconsistent with the purposes of this chapter.

RSA 485-A:29 Submission and Approval of Plans and Specifications
I." Any person proposing either to subdivide land...or to construct a sewage or waste disposal system, shall submit 2 copies of such locally approved plans as are required by the local planning board, or other local body having authority for the approval of any such subdivision of land, which is subject to department approval, and 2 copies of plans and specifications for any sewage or waste disposal systems which will be constructed on any subdivision or lot for approval in accordance with the requirements of the department as provided in this paragraph."

RSA-485A:32, II "Any person submitting an application and plans for construction approval shall also certify in writing that he has complied with all the local government requirements as relate to water supply and sewage disposal which must be complied with prior to application to DES in those municipalities where regulations require prior local approval;....

We hold that all the permits in question were issued unlawfully and prematurely as the planning board had not yet approved the projects and, in fact, were still holding public hearings at which new questions were being raised and new information was being provided

We understand that the intent of the state and the department in their oversight of the public good is premised on the local Conservation Commission, Zoning and Planning Boards acting as the first filter in the public interest by their review and consideration of all the pertinent facts, local interests and ordinances, relying on their general knowledge of the community and the region, and the application of same to the proposal before them. It certainly does logically follow that the second filter at the state level would not be entered into until the first filter of assessment and approval is completed, thereby enabling the facts and information from that first filter of decision to then be made a part of the review process conducted by the state.

Additionally, by acting prematurely it serves to deny those with unanswered or unresolved concerns the ability and necessary time to approach the state for redress

as the project in question may immediately go forward and then, at a later date, claim injury for costs expended relying upon this premature permit.

RSA485-A:41,III. "The commissioner shall ...prohibit construction of systems which would pollute the surface waters or ground waters of the state, until an acceptable and practicable method exists which will prevent this pollution."
"A waiver must be consistent with the intent of this subdivision and have a just result."

We further submit that the owner acquired several parcels and combined them to constitute these proposed projects with full knowledge of the special conditions and considerations applicable to these lands in relation the waters contained therein and that no waiver, should one be requested, should be considered.
[#IMPLIES THAT UNNECESSARY HARDSHIP NOT VALID]

Chapter 485-C – Groundwater Protection Act

RSA485-C:1, I "The purpose of this chapter is to protect the natural quality of the groundwater resource of the state. ....
The natural quality of the groundwater resource shall be preserved and protected in order that groundwater may be used for drinking water supply. ...
The legislature recognizes that groundwater constitutes an integral part of the hydrologic cycle and that the protection of groundwater quality is necessary to preserve the integrity of surface water."
The legislative intent here is obvious, and has been explicitly clear at least since 1996 when the last sentence above was added to the statute.

And at II, "The state, which has general responsibility for groundwater management in the public trust and interest, should develop groundwater protection programs within the scope of this chapter when such programs are not developed by a local entity."
Again, the legislative intent is obvious and if the department rules are at this time inadequate to this end, we request review in light of the Public Trust Doctrine.

RSA-C:4, IV. "The commissioner shall adopt rules ..relative to criteria and procedures for conducting and maintaining inventories of potential contamination sources and managing potential contamination sources under RSA 485-C:8."
This would seem to indicate, with all this information already on record, that our request for an evaluation of the totality of the impacts, both existing and proposed, would not impose an unreasonable burden on DES. Yet, we have been repeatedly told that it cannot be done. We strongly feel that such an evaluation is imperative before any additional projects which portend adverse impacts are permitted.

And at RSA485-C:8, III (c) "Performing an inspection at least once every 3 years of all potential contamination sources located within the contributing area to ascertain compliance with best management practices....
(d) Enforcing rules for best management practices....

And at RSA 485-C:11, II "These best management practices shall apply to all potential contamination source activities in the state."

As previously stated, these questions and concerns are related to waters which are Class A surface waters and class GAA, GA1 ground waters and an integral part of our public drinking water supply presently.

Concerns About Septic and Site Specific

The Summerfield Condo site is getting its drinking water from a municipal water system, but according to the ENSR water study the western portion of the site is with in the cone of contribution of the Bon Terrain well. Therefore in reality the western portion of the site has it source of water coming from the Summerfield Condo site. Therefore the intent of Env-Ws 1002.11 is really not met.

> Env-Ws 1002.11 "Cluster subdivision" means a purely residential subdivision of a tract of land, where a number of housing units are clustered on lots with dimensions and frontages reduced from minimum lot sizes required by Env-Ws 1005.03 and are serviced by an approved community or municipal water system, and where the dwelling unit density of the tract as a whole is equal to the density achieved by the lot sizing criteria of Env-Ws 1005.03 based on soil types and slopes and the remaining land is dedicated to open space.

> Env-Ws 1002.28 "Failure" means "failure" as defined in RSA 485-A:2, IV, namely "the condition produced when a subsurface sewage or waste disposal system does not properly contain or treat sewage or causes or threatens to cause the discharge of sewage on the ground surface or into adjacent surface or ground waters."

The Summerfield aggregate disposal system is permitted to handle over 24,000 gallons per day, which makes it more that a "Large disposal system".

> Env-Ws 1002.43 "Large disposal system" means an individual effluent disposal system which disposes of more than 2500 gallons of sewage per day.

> Env-Ws 1002.47 "Marshes", for the purposes of these rules, means areas which are ponded or saturated for extended periods of time, do not support woody vegetation, are dominated by soft-stemmed herbaceous plants such as grasses, reeds, and sedges, and which exhibit very poorly drained soil conditions as determined by Env-Ws 1014.02 and Env-Ws 1014.03(a).

> Env-Ws 1002.80 "Surface waters of the state" means "surface waters of the state" as defined by RSA 485-A:2, XIV, namely, "streams, lakes, ponds and tidal waters within the jurisdiction of the state, including all streams, lakes or ponds bordering on the state, marshes, water courses and other bodies of water, natural or artificial."

> Env-Ws 1002.86 "Wetland" means an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include, but are not limited to, swamps, marshes, bogs, and similar areas.

The contour plot of ground water levels from the ENSR report (see the fold out maps) and the design intent for the individual septic request/approvals as shown in the Excel spread sheet suggests inconsistencies in that data. It appears that a more detailed review of the septic permits and test pits is required. It is a surprise that most all of the perc tests report 2 minutes per inch. I have walked the site and the soil is very dry even after heavy rains. This suggests that the perc rate could be faster than 2 minutes per inch. It may be that Env-Ws 1006.08 should be invoked.

Env-Ws 1006.08 Additional Test Pits Required.

(a) The department shall require a new test pit to be dug for inspection by the department if the data submitted for a test pit as part of an application is internally inconsistent or is inconsistent with any other information received by the department.

Two or more of the septic systems were moved because of the ENSR water study. We do not believe that test pits and perc test were done for these relocated septic systems. Further, the ENSR pump test had a number of problems and did not follow published DES procedures. Those problems have been pointed out in other correspondence by Allan Fuller, George Woodbury, and supported by Jarworski Geotech in their June 2nd report to the Amherst Planning Board.

Env-Ws 1003.12 Alteration of Plans After Approval.

(b) For an individual sewage disposal system, if the location of the bed has been moved horizontally or vertically from the location shown on the approved plan, a new application shall be submitted.

It is our belief that the total septic loading should be treated as one for the whole site. The cumulative discharge for all 27 septic permits is over 24,000 gallon per day. There are at least 3 sites that have to have ground mounding to comply with SHWT requirements.

Env-Ws 1008.01 Lot Loading Capacity.

(a) The maximum allowable loading of sewage for subsurface disposal shall be 2000 gallons per acre per day with the best soil and slope conditions.

Env-Ws 1008.02 System Capacity.

(a) The maximum allowable design capacity for an individual septic system without a groundwater discharge permit as required under RSA 485-A:13 or RSA 485-C shall be 20,000 gallons per day.

Env-Ws 1019.03 Mounding Minimization. The length to width ratio for bed areas shall be increased in order to minimize groundwater mounding potential, increase oxygen transfer levels, and increase downslope cross-sectional area.

One of our major concerns is protect the groundwater and the preserve the quality of the groundwater infiltrating into Witches Spring Brook and more closely Peacock Brook. A major source of both these brooks is spring water/groundwater infiltration.

Env-Ws 1501.01 Purpose. The purpose of these rules is to establish standards, criteria, and procedures for groundwater discharge permits and discharge registrations to prevent pollution and protect groundwater.

Env-Ws 1503.01 Groundwater Quality Criteria. Unless due to a natural condition or unless exempt under Env-Ws 1503.02, the following criteria shall apply to all groundwaters of the state:
(a) Groundwater shall be suitable for use as drinking water without treatment;
(b) Groundwater shall not contain any regulated contaminant at a concentration greater than the ambient groundwater quality standards in Env-Ws 1503.03; and
(c) Groundwater shall not contain any contaminant at a concentration such that the natural discharge of that groundwater to surface water will cause a violation of a surface water quality standard.

PART 1504 GROUNDWATER DISCHARGE PERMIT REQUIREMENTS
Env-Ws 1504.01 Groundwater Discharge Permit.
(a) A groundwater discharge permit shall be obtained for the following activities:

(4) The discharge of domestic wastewater from a subsurface disposal system with a design flow equal to or greater than 20,000 gallons per day; and

(5) The discharge of domestic wastewater from subsurface disposal systems with Adopted Rule 2/23/99 12

TABLE 1500-2
MINIMUM NITRATE SETBACK DISTANCE TO PROPERTY LINE (FEET)
Design Flow (gpd) Hydraulically Hydraulically Hydraulically
for each system Downgradient Sidegradient Upgradient

15,001 - 19,999 500 250 125

aggregate design flows equal to or greater than 1,000 gallons per day (gpd) for a single lot if the following criteria are met:
a. The minimum nitrate setback distances, specified in Table1500- 2, to the property line are violated; and
b. Where the setback distances for 2 or more leach fields overlap, the leach fields shall be considered one system and the setback distance shall be determined by the combined flow of the leach fields in accordance with Table 1500-2.

(7) A discharge associated with a pumping test provided that the source water meets ambient groundwater quality standards as specified in Table 1500-1; and

We feel that a more detailed analysis of the environmental impact of both the site is required and special precautions need to placed on these developments.

Env-Ws 1504.02 Groundwater Discharge Zone.
(a) An application for a groundwater discharge permit shall contain hydrogeological information sufficient to delineate a groundwater discharge zone, taking into consideration the geologic characteristics of the site, the estimated groundwater flow patterns, and contaminant transport and degradation mechanism.

e. The plan shall identify and locate, to the extent ascertainable, the following:

1. Wastewater application and unlined lagoon areas, including total land area available and area to be used;
2. Existing and proposed groundwater monitoring wells that will be monitored;
3. Surface water sampling points;
4. Groundwater contours which show groundwater flow direction within 100 feet of the groundwater discharge zone;
5. Surface waters within 100 feet of the groundwater discharge zone;
6. Deeded easements which restrict the use of the groundwater;
7. A groundwater discharge zone boundary;
8. Land surface contours within 100 feet of the groundwater discharge zone;
9. Piezometers used to develop groundwater contours and/or monitor groundwater mounding;
10. Table of water level measurements and elevations found in piezometers and monitoring wells used to develop the groundwater contours;
11. Soil borings and test pits within 100 feet of the groundwater discharge zone;
12. Physical structures and buildings associated with facility;
13. Surface and underground storage tanks associated with the facility;
14. Underground utilities at the facility; and
15. Subsurface drains at the facility; and
Adopted Rule 2/23/99 19
f. If the plan is larger than 11" x 17", a copy of the plan scaled to fit onto an 8 ½" x 11" or 11" x 17" sheet and modified to make the items listed in Env-Ws 1504.04(a)(11)a., Env-Ws 1504.04(a)(11)b., and Env-Ws 1504.04(a)(11)e.1. through Env-Ws 1504.04(a)(11)e.7. legible;
(12) A table summarizing all groundwater and surface water monitoring results to date for the last 5 years from existing monitoring points unless a longer period is specifically requested by the department;
(13) A list of reports on land use history, activities, water quality, and hydrogeology associated with the property on which the facility is located;
(14) A detailed proposal for a groundwater and surface water quality monitoring program, including proposed monitoring schedule, parameters to be analyzed, and monitoring locations, with supporting information justifying the locations, frequency, and parameters selected;

Site Specific Permit - Env-Ws 415.01 Purpose.

(a) The purpose of these rules is to protect surface water quality from degradation resulting from any activity which significantly alters the terrain or occurs in or on the border of the surface waters of the state. Examples of these activities include dredging, earth moving, excavating, timber harvesting operations and mining.

Summerfield				Distance (ft) to Ground Water (Assumed to be 200 Feet [note 1]	Time to travel to ground water assumed to be at elevation 200	Time in Hours from EDS to ground water	
TP Location	SHWT	EDS Elevation	Perc Min/Inch				
E	32	208.4	2	8.4	201.6	3.4	
F	132	209.4	2	9.4	225.6	3.8	
27	132	209.8	2	9.8	235.2	3.9	
O	120	211.0	2	11.0	264.0	4.4	
R	72	211.5	2	11.5	276.0	4.6	
N	60	212.0	2	12.0	288.0	4.8	
M	96	212.2	2	12.2	292.8	4.9	
D	54	212.5	2	12.5	300.0	5.0	
Q	96	213.3	2	13.3	319.2	5.3	
J	132	215.2	2	15.2	364.8	6.1	
K	72	218.8	2	18.8	451.2	7.5	
1	132	219.0	2	19.0	456.0	7.6	
T	132	219.2	2	19.2	460.8	7.7	
V	105	220.0	2	20.0	480.0	8.0	
A	132	220.7	2	20.7	496.8	8.3	
H	75	221.0	2	21.0	504.0	8.4	
U	132	221.0	4	21.0	1,008.0	16.8	
J	42	222.2	12	22.2	3,196.8	53.3	
L	34	224.2	2	24.2	580.8	9.7	
B	132	226.5	2	26.5	636.0	10.6	
C	132	226.5	2	26.5	636.0	10.6	
TANA/Webb							
	96	216.0	2	16.0	384.0	6.4	
	40	216.0	2	16.0	384.0	6.4	
Note 1							
The ENSR Report show contours of the ground water table ranging from 199 feet to 204 feet across both sites							
Taking 200 feet as the ground water table level is conservative and the time of travel from the bottom of the							
septic system to the ground water may actually be much shorter in reality.							
The shortest perc rates reproted were 2 minutes per inch drop and would not be surprising if the perc rates							
were even shorter time of travel to ground water.							
A number of scientific papers warn of the putting septic systems in ground soils with a very short perc rate.							

WETLANDS

According to the Amherst Zoning Board minutes of November 19, 2002 the Summerfield project engineer, Me. Jim Edwards of Meridian, has stated "the total wetland area subject to the 'Wetland Conservation District', ... is 12 acres. These soils are deducted from the total area for a net tract area of 46 acres. The soils for the 46 acres are group I & II soils and are suitable for development." It has been repeatedly stated in various venues in May-June of 2003 that no wetlands permits are needed for this project.

RSA 482-A:1 It is found to be for the public good and welfare of this state to protect and preserve...its wetlands..from despoliation...because such despoliation...will adversely affect..fish and wildlife of importance, ..will be detrimental to adequate ground water levels, will adversely affect stream channels and their ability to handle the runoff of waters...and the silting of open water channels, and will otherwise adversely affect the interests of the general public.

In the year 2000 the voters of Amherst voted in the affirmative for an expanded local wetlands ordinance. See in the ordinance Section 4-11 Wetland Conservation District, pp.76;—Section 4-12 Watershed Protection District, pp.82 ---Section 4-13 Aquifer Conservation District, pp.84.
<A HREF="http://www.town.amherst.nh.us/members1.htm">Click here: AMHERST</A>
This will give you a directory of Amherst boards & Commissions.

We have been told that subsequently the mapping and designations have been done and that, somehow, the town administrator and selectmen have neglected to file same with the state DES.

A key element that deserves mention here is the statement made by Mr. Burke of Jaworski Geotech in his presentation to the Amherst Planning Board that the source water for the brook is the groundwater.

Items in the Amherst Zoning Ordinance:
The ZBA's decision on Nov. 19, 2002 was based on their ability to grant "Special Exceptions" (SE) as explained in Article V. "Section 5-2 Standards Applicable to All SE
A. Conditions for SE
Applicant must prove to the ZBA that all the following conditions have been met:
....3. "That there will be no significant adverse impacts resulting from the proposed use upon the public health, safety and general welfare...
....6. " That the proposed use will not adversely affect the ground water resources of Amherst, in particular the Aquifer Conservation District as defined in Section 4-13 of the AZO"
We question that these conditions have been met.

We question a breakdown in the approval process in the lack of NH requirements to account for transfer of drinking water from one town to another. DES on their Public Drinking Water Supply Sources Map still

lists the Bon Terrain well as serving 550 users. We believe this is indicative of only the Amherst users.
This is a "high yield aquifer" and in the Penn Data Requests ACC- PEN 1-1 9/16/02 they state that re: the 56' 6'' well dug in 1983: "The well currently is producing water at an average rate of about 625 gallons per minute...this translates to a specific yield of 44.01 gallons per minute per foot of draw down." It further states that the rate of 625 gal per min is not 'mining' the aquifer since this is the rate they have been pumping it since 1995.
Obviously with about 900,000 gal per day it is not just going to a few hook ups in Amherst. Therefore, any untoward wetlands impacts affecting the well will affect the entire region.

Reference - INTERMITTENT STREAMS IN ORDINANCE:

> In the Amherst Zoning Ordinance
> Section 4-12 Watershed Protection District (WPD)
> 1. Definition of Watershed protection District
> WPD shall mean an area of land surrounding bodies of water for
>the purpose of controlling building and land uses, which uses could contribute to
> the
> pollution of surface and ground water. WPD shall also mean any areas of
surface
> or ground water of such a nature that if altered by dredging filling., or
> relocating, would result in damage or destruction to habitats and reproduction
> areas for plants, fish and wildlife of importance, and if altered by dredging,
> filling, or relocating, would result in eliminating, depreciating or
> obstructing the commerce, recreation and aesthetic enjoyment of the public, and
> would be ##
> detrimental to adequate ground water levels, and would adversely affect
> stream channels and their ability to handle runoff of waters, and would disturb
> and
> reduce the natural ability of wetlands to absorb flood waters and silt.
> (3-14-87)3-11-86
> For the purpose of this section, such Watershed Protection District shall
> include, but not be limited to, all lands within one hundred (100) feet of
> bodies or water, perennial streams, or intermittent streams. ##
> Intermittent stream is one that flows within well defined stream bed
> during wet periods ##

We submit that this site does, in fact, contain an intermittent stream.

We further submit that a wetlands permit is indeed required for this development and in addition, we question whether one should be granted by the department. Please see our July 2, 2003 letter to the Wetlands Bureau with map and photographs (appendix ***) which introduces our concerns.
In addition we are concerned about the siltation issue in the wetlands and it's possible effects on the public waters of both Peacock and Witches brook as well as resultant effects to the wild trout therein. Concerns extend to the public's drinking water supply should siltation effects render the wetlands dysfunctional.

Pennichuck Watershed Council
C/O George A. Woodbury
28 So. Merrimack Rd.
Hollis, NH 03049-6231

2 July 2003

N.H. Department of Environmental Services
Wetlands Bureau; Mr. Collis Adams
6 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095

Dear Mr. Adams,

Please treat this letter as a formal request that the Department of Environmental Services investigate both with a site visit and detail review of the engineering plans for Summerfield Condominium in the Town of Amherst. This project has the potential to greatly impact the drinking water well (Bon Terrain Well), the Bon Terrain aquifer that represents a major source for the Pennichuck Brook Watershed, and two major eastern brook trout full cycle trout streams (Witches Spring Brook and Peacock Brook).

I am writing in reference to the proposed 77 'elderly housing' stand-alone residential units called the Summerfield Condominiums project in Amherst. By way of background I am not an environmental or hydraulic engineer. However, I am a retired Army Corps of Engineer Officer with over twenty-six years experience. I am familiar with the Federal Laws as they pertain to any projects using federal funding including the 404 permitting process, the Threatened and Endangered Species Act, the Historical Preservation Act, Section 106 and Section 107 compliance, Environmental Impact Assessments and so forth. I have been in positions to both evaluate submissions as well as comply with these laws. I am an Engineer by training with my masters in construction management and waste management. I believe my background and experience provide me the ability to make reasoned evaluations of projects such as the one addressed in this letter.

The Summerfield Elderly Housing project sits astride the Pennichuck aquifer on 57 acres adjacent to the Bon Terrain public water supply well and is bordered by Peacock brook and a small portion of the Witches Brook which feed into the Pennichuck ponds surface water source. At the last meeting of the Amherst Planning Board I asked whether or not a wetlands permit had been filed. I was informed that no permit was required, as the construction was not impacting any wetlands. I also asked who completed the wetlands delineation and was informed that an employee of the developer had completed the delineation.

I have walked this property extensively and have a number of questions in regards to the need for a wetlands permit. In the center of the project is an identified wetlands (see attached map). This is connected to an adjacent identified wetlands that is a part of the Peacock Brook. Water flows from this wetland area into the Brook after a heavy rainfall during periods of high water table. Water also flows between these two areas whenever the water table is above a certain level as the standing water in this wetlands and the Peacock Brook are a direct reflection of the Water table. These two areas used to be connected by a visibly identifiable flow area but at some point a culvert was installed and some fill added to permit vehicular traffic to the back area of this acreage. Given the intermittent flow of water across this zone and the relative elevation of both areas, it seems highly likely that these are a continuous wetlands area and not two distinct areas. I

have included some photos. The total distance from the water of the brook and the water in the central wetlands area at the time of these photo's was 88 feet. I believe these two areas are actually one and the contention that the planned construction will not impact wetlands is incorrect

It was also evident there had been considerable recent water flow between the two areas. Related to this is whether or not this site constitutes an intermittent stream. The developer intends to install a large culvert in this area, add fill and build a road over it. If this is indeed a wetlands and /or an intermittent stream and the affected area exceeds 50 feet, a wetlands permit should be required.

Additionally, the developer intends to collect the storm water from the roadways and transport it though a twelve-inch pipe discharging directly to the central wetlands. This action will introduce typical roadway contaminants into the wetlands and, due to the connection to the brook, during storm events it will flow directly into the Peacock Brook unless it is the intention of the developer to dam the existing linkage between the Brook and the wetlands area. Such a dam would impact the wetlands behind the dam. Further if the intention is to discharge roadway runoff into the wetlands, and thereby increase the intermittent flow as well, this should require a wetlands permit.

Finally, the developer will be supplying water to the development from the existing Bon Terrain Well. In order to do that he intends to drill, tunnel or push a pipe under the Peacock Brook to the other side. He contends that by completing the construction beneath the wetlands no wetlands permit is required. Is this true? It would seem that even if there were only a minimal risk of impacts to disturb the wetlands, a permit should be required so that the controls of this project can be reviewed to determine if adequate safeguards will be in place to avoid any untoward disturbance or destruction of the wetlands.

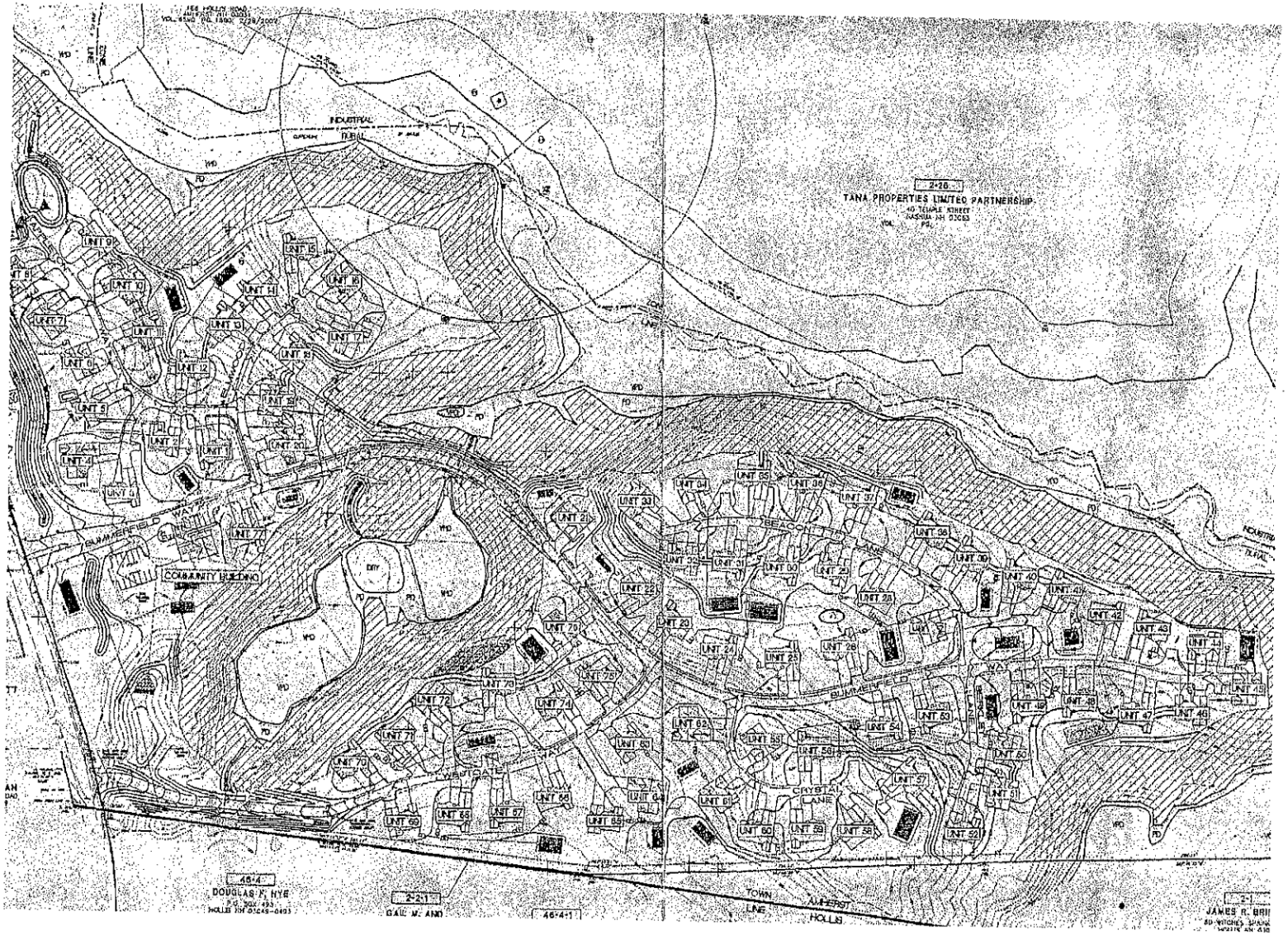
The construction of the road, leach fields, and the 77 housing units will require major clearing of the land, moving top soil, etc. The impact of siltation from the construction will impact the trout brooks (around 2,400 feet along the perimeter of the construction) and should require a wetland permit.

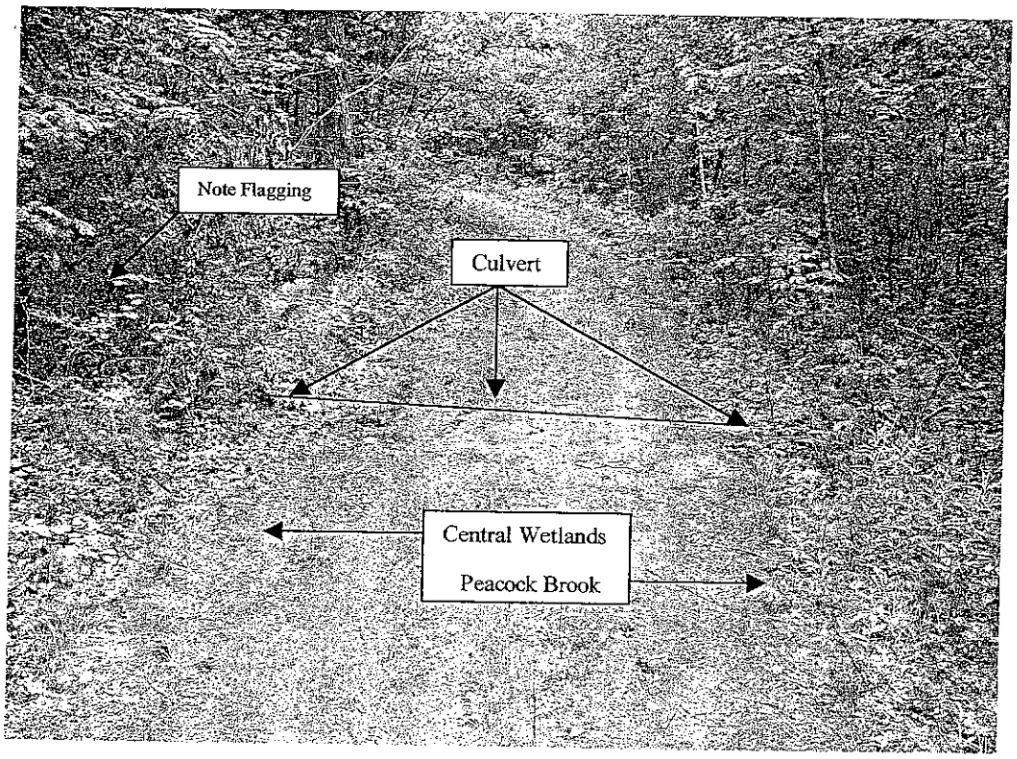
Thank you for considering this request to investigate the need for wetlands permits for the Summerfield Condominium Project. The Pennichuck Brook Watershed Council and other interested parties are committed to working with you (NH-DES) on this very important development to help minimize its impact on the environment, the trout, and the water supply. An early reply is requested so as to avoid the potential for a later required enforcement action should these concerns prove valid.

Sincerely,

George A. Woodbury
Executive Committee Member-Pennichuck Watershed Council

Cc: Mr. Ken Kettenring
Ms. Gretchen Rule-DES
Mr. Mark Harbaugh-DES
Ms. Jennifer Patterson, NH AG
Mr. Richard Head, NH AG
Rais-Crest, LLC


TANA PROPERTIES LIMITED PARTNERSHIP
40 TEMPLE STREET
NASHUA NH 03063
2-36
INDUSTRIAL
COMMUNITY BUILDING
SUMMERFIELD
CRYSTAL LANE
WESTGATE
DOUGLAS F. HYE
46-4
2-21
GAIL M. ANN
46-4-1
TOWN LINE
AMHERST
HOLLIS
JAMES R. BRI


Note Flagging
Culvert
Central Wetlands
Peacock Brook

Concerns and issues regarding pollution of Pennichuck Watershed Aquifer and its drinking water supply by proposed septic systems at Summerfield Condo's/Rais Crest in Amherst, New Hampshire:

(Note: This does not address pollution concerns from toxic pesticides, herbicides, or deposits of toxic or hazardous materials into the septic systems. Such concerns can only be addressed by not building at all so close to the main Amherst well (The Bon Terrain Well) and where the water table is so high and the perc rate is so fast.)

Major Issue: Prevention of pollution of drinking water from nitrates and viruses found in septic effluent:
Two options: Either a) no build or b) at minimum, need for Pretreatment using an Intermittent Sand Filter system:

Summation:

The Summerfield Condo area has a high water table and sandy soils that perc water at 2 minutes per inch. This means that the septic effluent will enter the groundwater without adequate filtering out of nitrates and infectious viruses which can then enter the Bon Terrain Well and wells of local residents. Either a no build or use of an Intermittent Sand Filering system along with the leach fields is necessary to protect against nitrate loading and viruses.

- The water table runs from 0'depth to 36" on the average in the Rais-Crest area of Bon Terrain, where the 77 condos would be located. This is a very high water table.
- Combined with that fact, the perc rate is an average of two minutes per inch meaning that effluent will just run right through the soil, barely stopping before it runs into the water table. This is a very fast perc rate.
- Combining the two, a very fast perc rate along with a high water table, means that septic effluent will be entering the water table containing high levels of nitrates and pathogens, including infectious viruses. These will not be restrained by the soil conditions long enough to eliminate infectious viruses like Hepatitus A, and the sandy soils will not eliminate enough nitrates.
- There is concern over human health impacts from high nitrates and water-born pathogens.

- There are many nearby private well owners, some with dug wells.
- Also the major drinking water supply for the town of Amherst is the Bon Terrain Well which is reported as being only 56 feet deep drawing directly, without treatment, from water only a few hundred feet from the nearest proposed leachfield.

- The Jaworski report, commissioned by the Amherst planning board, urged the use of alternative pretreatment systems at least in the northwest quadrant of the buildout of Summerfield Condos, to reduce concerns about nitrates. This was ignored by the planning board.

- National experts from the National Small Flows Clearinghouse based in West Virginia, which provides in depth analysis on waste water systems across the country have stated that such a high perc rate combined with such a high water table creates a situation that requires pretreatment added on to the leachfield system to deal with pollution control issues. The recommended system is an intermittent sand filter system according to them. The condo development should not proceed without such a system in place to guard against pollution from nitrates and viruses in the septic effluent they state.

- C.P. Gerba, University of Arizona, says that "Pathogent removal is most affected by survival and retention of viruses by the soil, which is largely determined by climate, nature of the soil and the nature of the nicroorganism. "

- Another town of Stinson Beach, California, has instituted a 20 feet to water table requirements if the perc rate is faster than five minutes. Rather that enforce this they now use the intermittent sand filter system and have for many years. They tested it in 1998 and nitrates appeared to be filtering out effectively. They were strong in their recommendation that a conventional system not be used when the water table is so high and perc rates are so fast.

- The proposed conventional septic system by Meridian Land Services at the Summerfield Condo's did not do anything to mitigate against the high water table and the fast perc rate. Other towns are passing much tougher standards, including 20 feet to ground water if the perc rate is faster than five minutes. Though Amherst does not yet have such standards in place, it does have two zoning ordinances that requires protection of the aquifer

and the watershed so that the drinking water remains safe. This system would not do that. This information was stated to the planning board at public hearings and was ignored.

- The State of New Hampshire soil scientists are working in a committee framework with the National Conservation Resource Service to develop soil based standards for septic systems. This indicates a growing concern with state standards. Building such a large condo complex over one of the last remaining pristine aquifers in the face of awareness that standards are not safe enough is wrong and does not protect the public health or public drinking water acequately.

Comments:

1) The National Small Flows Clearinghouse scientific engineers, including Ed Winant, engineering scientist who heads up the technical division, state that:
   - A perc rate under five minutes per inch is usually dealt with on a case by case basis by local board of health.
   - Where there is only four feet to groundwater and a perc rate less than five minutes, there is reason for concern related to both nitrates and pathogens, including viruses, because both will go too quickly through and reach the water table where they can be harmful to others.
   - Viruses have a limited life span so the best way of dealing with them has been found to be to catch them in that initial filter and hold them for over their life span (often only 12 hours) before they move on into the water table. But a perc rate faster than 5 minutes won't do that, particularly when only a few feet to water table.
   - Pre treatment systems like sand filtering systems help to eliminate nitrates and pathogens, and thus are an option.

2) Small Flows Quarterly , 2002 Archives: "Undesirable soil properties ranging from granite ledges to ultraporous sand, together with limited lot sizes and high water tables, cause problems for homeowners and regulators alike."

3) Stinson Water District, Marin County, California, senior engineer and soil scientist Troy Pierce (phone is: 707-763-6620) said:

"We do have a 20 foot requirement for perc rates under 5 minutes, but we don't use it. In the middle 1990's we switched to requiring intermittent sand filtering pretreatment systems. In 1997 we conducted a thorough hydrological test to see if they were reducing nitrates satisfactorily, which was the concern, and they were found to be. We are also now trying a few other alternative systems including Advantech, as a pretreatment measure instead. But we definitely needed to deal with filtering nitrates out of the system with that type of perc rate."

4) The Massachusetts Water Resources Authority is using filtration and pre treatment systems to reduce the need for chlorination to deal with water born infectious disease. Filtration, they maintain, is a satisfactory way to address nitrate and virus problems.

5) The Massachusetts Department of Environmenal Protection (DEP) says: "Bacteria and viruses from failing septic systems degrade water quality and threaten life systems. Recent studies in coarse soils such as found on Cape Cod have shown that some viruses can travel much further than previously thought. Studies have shown viruses 2 feet – 2723 feet from the septic system where they originated."

6) USGS is helping Massachusetts study it's stratified drift aquifers to try and address problems with water contamination. They said in a report: "Drainage areas surrounding major water-supply reservoirs are attractive areas for development and in recent years have received increasing amounts of toxic chemicals, nutrients, and human pathogens. Many of the ground-water sources are stratified-drift aquifers that are less than 100 feet thick. Because these deposits are permeable, water in the aquifers is highly susceptible to contamination from anthropogenic activities on the land surface.

7) Dr. George Tchoblanoglous has a book called Small and Decentralized Waste Water Management Systems that deals with reasons for being concerned about quick perc rates, among other things. Stinson Beach has continued to work with him . He is at UC Davis.

8) NSFC report on nitrogen loading in waste water systems supports the fact that sandy soils do not remove much nitrogen.

Citations:

1) Stinson Beach Hydrologic Survey; Stinson Beach Hydrologic Survey. Todd Engineers, February, 1998.
2) Methodology to Predict Nitrogen Loading from Conventional Gravity on-Site Wastewater Treatment Systems, WWBLRE14, National Small Flows Clearinghouse, West Virginia University, Morgantown, WV, 1-800-624-8301.
3) Hydrology of Stratified-Drift Aquifers and Water Quality in the Nashua Regional Planning Commission Area, South-Central New Hampshire.
4) On-Site Dewage Disposal – Influence of System Densities on Water Quality; Institute of Food and Agricultural Sciences, University of Florida, Florida Cooperative Extension Service. Dec. 1987, No. 31
5) The Small Flows Journal, Volume 2, Issue 1, Winter, 1995, Shallow Intermittent Sand Filtration.
6) Stinson Beach County Water District, Title IV Onsite Wastewater Management Code; Chapter 4.15 Design Standards:Conventional Systems.
7) Methods of Preventing Failure of Septic Tank percolation Systems, Nov. 1974, A HUD Handbook; 4075.16.
8) Cliver,D.O. and Green, K.M., University of Wisconsin-Madison, Viruses and Septic Tank Effluent; University of Wisconsin-Madison, 1975.
9) Lance, J.C., Science and Education aDministration, Agricultural Research, USDA, Beltsville, Maryland; Background information on Soil and Geohydrological Considerations – Microbial Considerations of Soil Disposal of Domestic Wastewater:Soil Considerations., 1982.
10) Bitton,G. Masterson,N. Gifford, GE. Dept. of Environ.Eng, and Dept of Immunology and Medical Microbiol; University of Florida, Effect of a Secondary Treated Effluent on the Movement of Viruses through a Dome Soil. Journal of Environmental Quality, 1976.
11) Bitton, G, James M. Davidson, S.R. Farrah, Univ. of Florida, On the Value of Soil Columns for Assessing the Transport Pattern of Viruses in Soils, A critical Outlook. 1979, water, air and Soil Piollution 12 (1979).
12) Gerba,C. Powelson,D; Yahya,M. Dept. of Soil and Water Science, Univ. of Arizona, Virus Transport and Removal in Wastewater During Aquifer Recharge; Water Resource. 1993.
13) Degen, MJ;Hagedorn, C;Reneau,R.B. Agronomy Department, Virginia Polytechnic Institute; Fate and transport of Biological and Inorganic Contaminants from ON-Site of Domestic Wastewater.;1989.
14) Gerba, c.P. University of Arizona, Virus Survival and Transport in Groundwater; 1989.

January 8, 2003

Marcia Thunberg, Esq.
New Hampshire Public Utilities Commission
8 Old Suncook Road
Concord NH 03301

Subject: DES responses to Petitioners' Data Requests
DW-02-126
Pennichuck Water Works, et. al.
Joint Petition for Approval of Change in Control

Dear Ms. Thunberg:

Attached please find New Hampshire Department of Environmental Services' responses to Petitioners' Data Requests submitted December 20, 2002.

Please call me or Paul Susca if you have any questions about this matter.

Respectfully submitted,

Harry T. Stewart, P.E.
Director, Water Division

Pennichuck Water Works, Inc.
Pennichuck Aqueduct Company
Pennichuck East Utility, Inc.

DW 02-126

Date Request Received: December 20, 2002 | Date of Response: January 8, 2003
Data Request No.: 1-1 | Witness: Harry T. Stewart, P.E.

REQUEST: The December 10, 2002 letter from Harry T. Stewart, P.E. to the Public Utilities Commission states that "This work has been historically underfunded." To which work does this refer, and whose responsibility has it been to fund this work? Do you know why the work been historically underfunded? If so, please explain.

RESPONSE: Mr. Stewart's letter refers to the work of implementing the more than 100 recommendations included in the *Pennichuck Water Works Watershed Management Plan* (August 1998, Comprehensive Environmental, Inc.) and in various studies and reports prepared pursuant to the *Watershed Management Plan*. It has been Pennichuck Water Works' responsibility to fund this work. DES has not determined why this work is underfunded.

Data Request No.: 1-2 | Witness: Harry T. Stewart, P.E.

REQUEST: Are there state regulations which currently govern watershed management? If so, are these regulations sufficient to address watershed management and protection?

RESPONSE: Under RSA 485:24, DES has adopted Administrative Rule Env-Ws 386.50 Protection of the Purity of Pennichuck Brook and Its Watershed. This rule places restrictions on the use of certain water bodies and land adjacent to Pennichuck Brook (including the ponds) and its tributaries. DES is in the process of reviewing Env-Ws 386.50 and drafting amendments. However, DES does not expect the amended rule to be sufficient *by itself* to adequately address watershed protection. There is no such rule for the Merrimack River watershed.

Because portions of both the Pennichuck Brook watershed and the Merrimack River watershed are highly urbanized and becoming more so, and numerous existing and future threats need to be addressed, state regulations alone are not sufficient to address watershed protection in this case. In addition to state

regulations, a water supply watershed protection program should include local land use regulations, ongoing monitoring for compliance with state and local regulations, ongoing water quality monitoring, emergency response planning and preparation, watershed restoration including retrofit of structural best management practices, land protection, and an education and outreach component.

Pennichuck Water Works has committed to implementing the *Pennichuck Water Works Watershed Management Plan*, which was developed in the context of the sale of lands within the Pennichuck Brook watershed. Consequently, it is appropriate that a new owner would fulfill this commitment and fully fund proposed watershed protection measures, including those that are currently underfunded.

Data Request No.: 1-3 Witness: Harry T. Stewart, P.E.

REQUEST: What threats, if any, exist to the Pennichuck watershed? How can these threats be best controlled?

RESPONSE: Threats to the Pennichuck Brook water supply have been inventoried in Pennichuck Water Works' 1998 *Watershed Management Plan* and in subsequent reports and studies cited in Pennichuck Water Works' August 14, 2002 response to DR 1. The *Watershed Management Plan* lists the following as the top 10 problems in the watershed:

1. Loss of baseflow/increased runoff/stream channel modifications.
2. Impacts of future development on water quality expected.
3. Chain ponds are filling in.
4. Transportation impacts (polluted runoff from roadways).
5. Agricultural impacts.
6. Hot spots (hazardous waste sites, hazardous waste generators, and other sites where releases of industrial chemicals or petroleum products may occur).
7. Lack of understanding of watershed protection principles among local regulatory, planning, public works, and engineering communities.
8. Lack of understanding of watershed protection principles among watershed businesses and the general public.
9. Pennichuck Water Works' lack of regulatory control/authority.
10. Water quality database is insufficient.

These threats can be managed by implementing the more than 100 recommendations listed in the aforementioned plan, reports, and studies, which are listed in PWW's November 21, 2002 response to DR Staff PEN 3-3.

Data Request No.: 1-4 Witness: Harry T. Stewart, P.E.

REQUEST: Generally, how has development in the greater Nashua area affected the Pennichuck Watershed?

RESPONSE: As noted in the 1998 *Watershed Management Plan* cited above, the hydrologic effects of development (as indicated by percent impervious land cover) in the Pennichuck watershed include reduced groundwater recharge and consequently reduced aquatic baseflow, which combined with siltation of the ponds has resulted in a 75% reduction in water yield. The water quality effects include increased loading of pollutants (petroleum hydrocarbons, toxic heavy metals, pathogenic microorganisms, and nutrients) and sediment from stormwater. In addition to direct impacts of these pollutants on water quality, the increased nutrient loading likely has a role in the eutrophication (declining water quality) of the ponds. In addition to these hydrologic and water quality impacts, the *Watershed Management Plan* notes that aquatic habitat, recreational value, and aesthetics have already been impacted.

Data Request No.: 1-5 Witness: Harry T. Stewart, P.E.

REQUEST: Does the City of Nashua have any responsibility or authority for implementing ordinances and regulations to protect the watershed within its confines? Please explain.

RESPONSE: The responsibility to protect a public water supply source rests primarily with the water supplier. The water supplier's role is to use information supplied by the NH Department of Environmental Services and other sources, and to augment that information where needed with additional studies and ongoing programs to develop and maintain an understanding of the existing and potential future threats; to identify priorities for source protection; and to work with local governments,

DES, and other stakeholders to implement a source protection program. Municipalities have authority under the land use planning and zoning enabling statutes, as well as health and police-power statutes, to implement a variety of source protection measures. For its part, the City of Nashua's contribution to protecting Pennichuck Brook has included the creation of a conservation zone with restrictions on land development on lands adjacent to the Brook and its tributaries, stormwater management regulations for the watershed, and the acquisition of watershed land.

Data Request No.: 1-6 Witness: Harry T. Stewart, P.E.

REQUEST: Has the Department of Environmental Services recommended that other water utilities in New Hampshire hire a source water protection specialist? If so, please identify each utility and produce any documents relating to such recommendations, including to whom the recommendation was made.

RESPONSE: No, DES has not made that recommendation to any other water system. Pennichuck Water Works is faced with a unique set of source protection challenges; a full-time source water protection specialist is needed to address those challenges in a timely fashion. Also, this is consistent with the practices of other major water utilities including the Manchester Water Works

Data Request No.: 1-7 Witness: Harry T. Stewart, P.E.

REQUEST: Does the City of Nashua have sufficient ordinances and regulations in effect to protect the Pennichuck Watershed. If not, please explain why not.

RESPONSE: No. There are two main reasons. First, 78% of the Pennichuck watershed is located outside the jurisdiction of the City of Nashua. Second, regulations alone are not enough to protect this watershed, as noted in DES's response to Data Request 1-2.

Data Request No.: 1-8 Witness: Harry T. Stewart, P.E.

REQUEST: Are there parcels of land that the Department of Environmental Services believes are necessary to protect the Pennichuck Watershed? If so, identify each parcel in detail.

RESPONSE: DES has not identified specific parcels at this time. As a general principle, lands adjacent to Pennichuck Brook (including the ponds) and its tributaries, up to several hundred feet away from the water line and adjacent wetlands, are the most important in terms of protecting the water supply, although all land in the watershed is potentially important in this regard.

The identification and prioritization of specific parcels for protection is integral to a source protection program.

The concept of permanent land protection as a means to protect water supply sources has been supported by the New Hampshire Legislature, as demonstrated by the establishment and continued funding of the Water Supply Land Conservation Grant Program. This program has already aided the City of Nashua in protecting 295 acres of land owned by Southwood Development Corporation, which otherwise would have been developed. Another parcel of Southwood land is currently under consideration for funding by the program.

Data Request No.: 1-9 Witness: Harry T. Stewart, P.E.

REQUEST: Would the Department of Environmental Services make the same recommendations contained in Mr. Stewart's December 10 letter regardless of who owns Pennichuck Water Works? If not, please explain why.

RESPONSE: Yes. As assessment of the existing and future needs would yield the same conclusion.

Data Request No.: 1-10 Witness: Harry T. Stewart, P.E.

REQUEST: Does the Department of Environmental Services take a position regarding whether the acquisition of Pennichuck Corporation by Philadelphia Suburban meets the "no net harm" test?

RESPONSE: No.

Data Request No.: 1-11 Witness: Harry T. Stewart, P.E.

REQUEST: Has the Department of Environmental Services, or the Public Utilities Commission Staff, given any consideration to the impact on cost of service and rates of DES' proposed conditions to the merger? If so, please describe in detail such consideration, including DES' and the Commission Staff's view regarding that impact. If possible, include estimated dollar amounts.

RESPONSE: DES has not quantified the impact on cost of service and rates, but considers the cost of implementing its recommendations reasonable in light of source protection expenditures by other systems of comparable size and circumstances. For example, Manchester Water Works, which serves 60% more people than Pennichuck, has an annual source protection budget of over $400,000 for a watershed that we believe has far less pressing threats. Furthermore, the future costs are for the most part consistent with those required for Pennichuck to implement future activities already specified in the *Pennichuck Water Works Watershed Management Plan.*

Data Request No.: 1-12 Witness: Harry T. Stewart, P.E.

REQUEST: How much capital on an annual basis do the Department of Environmental Services and PUC staff recommend that the owner of Pennichuck Water Works commit to acquiring and maintaining land or perpetual conservation easements or restrictions on land to protect sources from contamination?

RESPONSE: DES has not determined what amount would be adequate. Please see response to Data Request 1-8.

Data Request No.: 1-13 Witness: Harry T. Stewart, P.E.

REQUEST: Does Pennichuck's current capital improvement plan satisfy the conditions on page 2 of Mr. Stewart's December 10 letter?

RESPONSE: Not sure. DES has not received a copy of the current plan.

Data Request No.: 1-14 Witness: Harry T. Stewart, P.E.

REQUEST: Does the Department of Environmental Services believe that Philadelphia Suburban Corporation has sufficient expertise to manage the Pennichuck watershed? How does Philadelphia Suburban's watershed management expertise compare to Pennichuck's?

RESPONSE: Assuming little or no staff changes at Pennichuck resulting from a change in ownership, Pennichuck's expertise should be essentially the same as now. DES requests that existing staff capacity for watershed management be built up to adequate levels and that the new owner commit to fully implementing existing long term plans.

Summation and Response to DES Level of Awareness of Problem
(as demonstrated in response to PUC January 8, 2003)

In conclusion, we submit that it may inform the question of sufficient due diligence and a reasonable decision to consider just what level of awareness the department has as to conditions pertinent to this aquifer and this watershed. Please see below which offers some insights as recently as six months ago from Harry T. Stewart, P.E., the Director of NH-DES Water Division. What follows are our comments to the Director's response to PUC (above).

No.1-1 While we have not seen the referenced letter, the tone of the following material would seem to indicate that said letter from the Director of December 10,2002 would be of value to this discussion as it appears to contain recommendations and conditions which would speak to a knowledge of threats, impacts, and needs which would support many of the points we have addressed herein.

No.1-2 Restrictions on tributaries: We doubt that this applies to Peacock Brook but wish to note that said brook does flow into Witches brook which is a direct tributary to the Pennichuck water supply system.
The Director states "state regulations alone are not sufficient to address watershed protection in this case." and " numerous existing and future threats need to be addressed"
We submit this speaks yet more forcefully for the imperative of the thorough scrutiny we are requesting be applied to the concerns raised herein.
Also referenced is the need for land protection. We wish the record to show that extensive lands were purchased through a levy on citizens' water bill for many,many years. Subsequently, the private water company proceeded to claim ownership of these properties purchased with the pennies of the ratepayers, and has proceeded to sell and develop them itself to the great detriment of the protections needed for the watershed and to the great enrichment of the company and it's stockholders.
In light of this last statement, we feel it is dubious that the "commitment" here spoken of is likely to materialize unless it comes from the authority of the state.

No. 1-3 An interesting top-ten. How do you suppose this list became so dastardly with the sustained exercise of due diligence in protecting this drinking water supply?
"More than 100 recommendations..." ??

No. 1-4 Please note the mention of a 75% reduction in water yield.
This serves to illustrate that this water supply can ill afford to play fast and loose with any potential threats to it's quality, quantity and sustainability.

No. 1-5 "The responsibility to protect a public water supply source rests primarily with the water supplier." In this instance, a privately owned for profit company, the companies profit motive is better served by the necessity to locate a new water source or new treatment modalities!! Sustaining the current sources does not offer the potential for handsome profits on their capital investments!! We submit that the primary responsibility rests with the state and is so stated in statute an well as the Public Trust Doctrine.!!!

No. 1-6 The response notes the unique condition of this water supply in which the state recommends a course of action recommended to no one else. We submit that this, too, speaks forcefully to the imperative for thorough scrutiny.

No. 1-7 But, again, is it not the duty of the state to protect the peoples water rather than attempt to shift the responsibility to the states political subdivisions?

No. 1-8 In light of the level of awareness here demonstrated by the Director, why has the department failed to act to protect parcels of land necessary for the protection of the aquifer and the watershed? Could it be that the lands here in question should be considered to be in that category? If identification and prioritization is integral to source protection, why has the department not moved to do so "at this time"?
Again, we submit that this speaks to the imperative for a comprehensive review before any further probable threats to our drinking water are simply rubber-stamped through the permitting process!!

No. 1-11 What are DES's "reasonable" recommendations and suggested conditions?

No. 1-14 Existing local staff capacity for watershed management is inadequate at present?

It is time for a comprehensive look before preceding one more step. Again, concerned that our request may prove to be beyond the scope of the abilities of the department, we additionally, request that the sum of our concerns be reviewed under the Public Trust Doctrine for untoward impacts that may be reasonably expected to impact the people's waters. We further request that all permits be stayed until an informed decision can be reached. We submit that the system of reliance upon the local 'first filter' of review has in this instance been a failure and that this is due to insufficient due diligence, improper procedure, and conflicts of interest at the local level.

Thank you for your time and attention given to this very serious issue.

Pennichuck Watershed Council

We the undersigned have multiple (many?) concerns about the proposed developments in the Bon Terrain area and their impacts to the Bon Terrain Well (BTW), local private wells, the aquifer, and the water supply of the whole region. We support the Pennichuck Brook Watershed Council (PWC) in their inquiry into these matters.

Please check columns that apply

Name	Signature	Street/Road	Town	Phone	Abutter	Drink the Water	Fish in the streams	Member of PBWC
M. BROCKWAY		David Brayley	Amherst	673-3363		✓		Yes
L. Maxfield		Pinnacle Rd	Amherst	673-7159		✓		✓
Mabel Farrell	Mabel Farrell	Souhegan	Amherst	672-2142		✓		
DANA T. FLORENCE		1 TOWN FARM ROAD	AMHERST	249-9709		✓		
Rosemary Florence	Rosemary Florence	1 TOWN FARM RD.	AMHERST	249-9709		✓		
Leora Desmarais		6 Town Farm	Amherst	673 2841		✓		
Mary Forbes		117 Ponemah Rd. Amherst NH		673-1890		✓		
[illegible]		2 Ponemah Hill	Amherst			✓		
Cynthia Reed	Cynthia Reed	7 Ponemah Hill	Amherst	672-1885		✓		
John Boscaron		16 Ponemah Hill	Amherst	672 8760		✓		
Robert Rose	Robert Rose	8 Ponemah Hill	Amherst	673 1818		✓		
Wm C. Rose II		8 PONEMAH HILL RD	AMHERST	673 1818		✓	✓	
Elaine Rose		8 Ponemah Hill Rd	Amherst	673-1818		✓		
John T. Rose		8 Ponemah Hill Rd	Amherst	673 1818		✓		
C. JEGLINSKI		8 WEST HILL DRIVE	NASHUA NH	883-8910		✓	✓	✓
Pat [illegible]		PO Box 175	Merrimack NH	4325023		✓		✓
Rob [illegible]		59 Middle Rd	Gilmanton, NH	267-6915		✓	✓	
[illegible]		59 Middle Rd	Gilmanton	267-6915		✓		
Emeline Merrill		W. Lakes Spring				✓		
Ruth Hall		" "				✓		
Rebecca Crawford		" "	Hollis	465-3681		✓		
[illegible]		Wetlands Spring	Hollis	465 7756		✓	✓	

We the undersigned have multiple (many?) concerns about the proposed developments in the Bon Terrain area and their impacts to the Bon Terrain Well (BTW), local private wells, the aquifer, and the water supply of the whole region. We support the Pennichuck Brook Watershed Council (PWC) intheir inquiry into these matters.

Please check columns that apply

Name	Signature	Street/Road	Town	Phone	Abutter	Drink the Water	Fish in the streams	Member of PBWC
Robert D Glover	Robert Glover	100 Witches Spring Rd	Hollis	465-3805	✓	✓	✓	
E. June Glover	June Glover	100 Witches Spring Rd	Hollis	465-7705	✓	✓	✓	
MARIE GLOVER	Marie Glover	106 Witches Spring Rd		465-7792	✓	✓	✓	
Michael Buckley	Michael Buckley	4 Toddy Brook	Hollis	465-7049	✓	✓	✓	
Kristina Buckley	Kristina Buckley	4 Toddy Brook	Hollis	465-7049	✓	✓	✓	
Beverly O'Brien	Beverly O'Brien	11 E. Mason Ln	Hollis	465-4752		✓		
Bryan Hagen	[illegible]	289 Mason Rd	Milford	673-7601		✓		
Yves Michaud	Yves Michaud	4-8 Th St	Nashua	888-3045		✓		
Adelinda Higgs	Adelinda Higgs	289 Mason Rd	Milford	673-7601		✓		
Betty Schulze	Betty Schulze	7 Pennacook Rd	Amherst	673-7457		✓		
ANNE HOAG	Anne Hoag	3 Holt Rd	Amherst	673-2834		✓		—
Nancy Dietz	Nancy Dietz	179 Hollis Pl	Amherst	6735183	✓	✓		✓
Kim Spargo	K. Spargo	6 Wadsworth Dr	Brookline	672-6209		✓		
Gina Spargo	Gina Spargo	6 Wadsworth Dr.	Brookline	6726209		✓		
[illegible]	[illegible]	Concord Rd	[illegible]	889-1029		✓		✓
Noah Eichler	Noah Eichler	5 Oakwood Dr	Hollis	465-9965		✓	✓	✓

77 Condo Units Built on Top of Aquifer

		Approve	Concerned	Against
Nancy [illegible]				✓
[illegible] Amherst				✓
Reginald Scott				✓
[illegible] Amherst				
Laurie Reich			✓	
[illegible]				
Maria [illegible]				✓
Nashua				
Sonny Packard				✓
Edith [illegible]			✓	✓
C. Stiehm Amherst NH			✓	
L. Stiehm Amherst, NH				✓
Ann Jarvenpa Amherst, NH				✓
June Hall			✓	✓
Chester M. Hall				✓
Ted L [illegible]	Amherst		✓	
Ken Osborne	Amherst			✓
Shelby Farrar	Amherst		✓	
MARY & KEITH GRIMES	AMHERST			✓
Suzanne & Joe Fichter	&			✓
Jonathan Salem				✓
Charles P. Parsier			✓	✓
Michael Fox	Milford		✓	

77. Condo Units Built on Top of Aquifer

	Approve	Concerned	Against
[illegible] HERST	~~Hollis~~		✓
Melissa Mazzarone	Hollis	✓	✓
[illegible]	Hollis	✓	✓
[illegible]	Hollis		✓
[illegible]	Amherst		✓
Ellen Cain	Amherst		✓
Dan Cain	Amherst		✓
[illegible]	Hollis	✓	✓
[illegible]	Milford	✓	
Constance L. Lepage	Amherst	✓	✓
Michelle Wood	Hollis	✓	
Robbin Dunn	Hollis	✓	✓
[illegible]	Hollis		✓
William J. [illegible]	Hollis		✓
[illegible]	AMHERST		✓
Louise Hardy	Amherst	✓	
Theresa M. K. Lemp	Amherst		
Beverly Woodbury	Wilton	✓	
[illegible]	Amherst		✓

Pennichuck Watershed Council
C/O George A. Woodbury
28 South Merrimack Road
Hollis, NH 03049-6231
Ph 603-465-9751
Email geowoody@tds.net

New Hampshire Fish and Game
Acting Executive Director, Mr. William S. Bartlett, Jr.
2 Hazen Drive
Concord, NH 03301

Dear Mr. Bartlett:

I am writing to you on behalf of the Pennichuck Watershed Council, a non-profit membership organization, asking for your intervention in ensuring accurate studies of the impacts in regards to the Summerfield elderly housing project proposed for Amherst on the Amherst /Hollis line just east of Route 122 in the Bon Terrain Well Head area. Construction of a 77 unit housing development in this location of highly permeable soils could pollute the Bon Terrain well that provides up to one million gallons of drinking water per day.

The potential for contamination from nitrates, pesticides and herbicide of this major wellhead and the surrounding aquifer that feeds water directly to Amherst, Milford and Hollis and to residents in the immediate area, has not been adequately studied. The preliminary studies that have been completed in our view use inappropriate assumptions and do not include all appropriate factors and as a result underestimate the risk.

We are also very concerned about the potential for significant negative impact on Witches Brook, which is the site of a full-cycle, wild trout habitat. There is a real possibility that the temperatures of the surface and ground waters will be increased due to the housing development's elimination of the vegetative overstory in the area, which would kill off this trout population.

Recent engineering studies conducted by ENSR on behalf of the developer had a number of shortcomings and I would hope that you might intervene in this situation to ensure that the impacts are adequately addressed, fully understood, and that any mitigating factors or stipulations required of the housing development are actually defendable over the long term.

This project will have a regional impact but unfortunately we have been told there is no established formal procedure at the state or local level for initiating and conducting regional studies. If this is indeed the case, this situation may have to be resolved legislatively. Every affected community should have some say in the final decision to allow this project to proceed.

If we wait until after the fact to discover that what was done was not adequate, it will be too late for both the people of the area and the wild trout.

Enclosed is a summary of some of the major concerns we have identified in the reports. If you have any questions please do not hesitate to call.

Sincerely,

George A. Woodbury
Executive Committee

CC. Mr. Richard C. Moquin Fish and Game Commission Chairman
NH /DES Wetlands Protection
Nashua Regional Planning Commission Andrew Singelakis, Executive Director
and Mr. Steven H. Heuchert, MRTP
Charles Tiedemann Zoning Administrator Town of Amherst
Mr. Mark Archambault Town Planner Hollis
Town Planner Milford
Town Planner Merrimack
Ms. Kathy Hersh Community Development City of Nashua
Ms. Salley Wilkins Chairperson Town Planning Board Amherst
Stephen G. Perry Chief, Inland Fisheries Division
William C. Ingham, Jr. NH Fish and Wildlife

Enclosure

The Developer commissioned an engineering study by the ENSR to determine the potential impact on the Bon Terrain wellhead and to make recommendations. This report had a number of shortcomings that the developer is glossing over.

1. The pumping tests were conducted 2-9 April 2003. ENSR states, "This was a time of significant recharge due to precipitation and snowmelt. Results might differ (be less favorable) during drier seasons or years." We agree and believe additional tests must be required during a drier period.
2. The maximum pumping rate achieved during these tests was 618 gal/min and yet these were extrapolated to 640 gpm. The average pumping rate was 535 gpm. The maximum pumping capacity of the well was not provided. Even at these reduced pumping levels and during a period of "significant recharge" ENSR's results indicated "fairly strong fluctuations , probably due to variable pumping rates...." in the test wells. This would indicate the water table, even under these ideal conditions is, sharply influenced by pumping at the Bon Terrain Well (BTW). Under less favorable conditions these affects would be potentially far greater. This has a direct bearing on the travel rate of pollutants through the ground to the well. ENSR in their report identify these fluctuations as "probably contributed to the inaccuracy in determining" the hydraulic conductivity of the soil, a critical element of any estimates of the time of travel. They suggest these errors could be better evaluated with a formal hydrogeologic report. This should most definitely be done. They indicate the hydrological conductivity could range from a low of 10 to a high of 372 feet per day resulting in a range of time of travel from as little as 48 days to a high of 1738 days from the third closest leach field. Such a wide result provides entirely too much latitude to draw any conclusion one would desire. Furthermore, the affect of groundwater mounding of the leach field was not considered which would accelerate the flow rate to the well by some degree. Dye trace studies could greatly increase the accuracy of these tests and we would contend they must be conducted at less favorable times and at the full pumping capacity of the well.
3. ENSR referred to nitrate samples taken at the BTW over the last seven years. These tests ranged from a low of .29 mg/L to a high of 1.08 mg/L. Again these results reflect a significant variance and no effort was made to correlate the data to any other factors to determine the cause for the high variation. ENSR chose to use the average for their estimates, which we believe is not correct. We believe the worst case must be assumed, as it is not acceptable to exceed the drinking water standards occasionally. ENSR assumed the only source of additional nitrates was from the leach fields and did not account for the potential for additional nitrates from lawn fertilizers. ENSR states in their report that their results "must be considered preliminary. Hydrogeologic techniques such as comprehensive aquifer parameter determination, comprehensive nitrate loading studies, and numerical modeling have not been performed." We believe we need more than preliminary results to make a decision when you assess the gravity of the potential consequences of this decision and that these additional studies must be done.
4. The project consists of the clearing of 58 acres of land, which would have from 77-84 condominium units. The existing forest would be essentially removed and replaced with paved roads and grass. No account was made for road salt or the

siltation affect of road sand applied in the winter. During the winter months when the ground is frozen, the dissolved salt is carried directly to the streams as runoff and would end up in the Witches Brook via the Peacock Brook, which bisects the northern portion of the development. No mention was made of making this a no salt area and the affect of not using salt in an elderly housing development was not discussed. In the summer the loss of the over-story will result in higher ground temperatures, higher air temperatures and we are concerned these will lead to any runoff having elevated temperatures affecting the Witches Brook water temperature. Additionally the existing vegetation acts in some respects as a throttle/sponge to rainfall, which increases absorption rates into the ground and decreases run-off rates. Elimination of the over-story and existing ground vegetation will greatly increase the amount of run-off and surface water flow rates. These factors could have a significant affect on the brooks and their ability to sustain the trout population. While the Region 4 New Hampshire Fish and Wildlife Department have said they appreciate that some level of effort will be made to protect the Witches Brook habitat, they have not said they are confident these measures are adequate and want to conduct water temperature testing and brook trout sampling after the project is complete (the project was slated to begin this summer so there would not be time to sample during a summer period prior to development). Unfortunately there are no provisions for what actions would have to be taken in the event these measures are not adequate and the habitat is adversely affected. We believe there are means available and locations where temperature modeling studies could be performed to more closely predict the potential impact of this project on the Witches Brook. These studies are essential before the project is allowed. We are not suggesting that Fish and Game conduct these studies but are suggesting they be done by a competent independent firm or agency.

5. The Pennichuck Water Works has reviewed ENSR's report and has not objected to the construction of the project provided two of the leach fields are moved out of the well head protection area and a series of restrictions are to be placed on the residents as to pesticide use, fertilizer use and education regarding the disposal of unapproved substances into the septic systems. There is no provision for enforcement or assurance that the educational programs will remain in effect over the long term. Further, one must recognize Pennichuck has a conflict of interest due to the fact these residents will become their customers and because of their own financial interest in continued development in the watershed area as a result of their involvement with Southwood Corporation. Southwood has a financial interest (just under one fourth of the gross revenues of the company come from Southwood Corp.) in development in the watershed area and to take a position contrary to this development is to take a position contrary to their own interests. This is compounded by the fact that Pennichuck's reliance on their wells has been greatly diminished given their withdrawal permits from the Merrimack River. These permits allow them to supplement their withdrawal from the Pennichuck brook during times of peak need. This diminished interest is further evidenced in the report prepared by Rizzo Associates for he City of Nashua in which it was pointed out in reference to the activities of Southwood Corporation " The impact of uncontrolled development is also becoming clear as the water supply ponds are silted in and the water quality deteriorates as evident by elevated bacteria and nutrient concentrations." Rizzo went on to identify that there is over 20 million

dollars worth of capital investment needed to restore the ponds and Pennichuck has zero dollars in their capital improvement plan for this purpose. Pennichuck may not be worried, but private well owners and communities in the watershed should be concerned for the long-term health of the watershed and the sustainability of their private wells. If the watershed is not carefully managed the economic viability of the region could be seriously affected.

6. Finally ENSR states

"Options to increase the comfort level that the Summerfield development will not pose an unreasonable threat to the BTW include:

- Relocating some of the closest leach fields to the BTW
- Performing nitrate loading/dilution analyses to see if locating leach fields within the area that might contribute groundwater and leachate to the BTW might still be acceptable
- Conducting numerical modeling to further quantify the groundwater system and predict the effects of pumping and loading scenarios
- Institute a long term monitoring program, based on time of travel estimations
- Conducting informational and educational programs
- Controlling fertilizer and pesticide application"

Reading between the lines of this statement makes it evident that ENSR is listing some significant reservations of their own conclusions and would recommend the above-mentioned studies be performed. We agree with them and believe to approve this project without conducting these studies is irresponsible. Further, these studies should certainly include a serious look at the potential water temperature and pollution affects of the development on the Witches Brook trout habitat.

Appeal of Planning Board Decision to Zoning Board

July 2, 2003

(No special form for appeals was available, and so the applicants worked off of the variance form)

This is an application submitted to the Amherst Zoning Board on July 2, 2003 appealing the Planning Board's June 18, 2003 approval allowing development of the Rais-Crest Condominiums. This appeal to the Zoning Board is due to the neglect of the Planning Board to properly apply the Watershed Protection District and Aquifer Conservation District sections in the Zoning Ordinance of the town of Amherst when rendering their decision on Rais-Crest Condominiums.

Attorney Jedd Callen, an environmental and zoning attorney, has advised the applicants that the Zoning Board must consider this appeal before it is taken to Superior Court. He stated that any appeal based on the proper application of zoning ordinances must first be appealed to the Zoning Board.

Appeal Information:

I. Address of land and development in question as cited in posting of hearing:
NRSR and Subdivision to Condos
Map 2/Lot2 & Map 2/Lot 26
Route 122, Amherst, NH 03031
Tana/Rais-Crest

The applicants are appealing the planning board's decision to allow such a development as Rais-Crest on the above listed 58 acres of property. The applicants believe that the development as planned does not sufficiently protect the watershed nor the aquifer and drinking water for the abutters, the town users of Bon Terrain water, and users of the groundwater in the Pennichuck Brook Watershed aquifer. Further, the watershed will be impacted in such a way that the development will damage habitats and reproduction areas for plants, fish and wildlife of importance.

The applicants request that the zoning board hold public hearings and review the full impact of this development, on the watershed and aquifer, keeping in mind that the town's ordinances are designed to offer protection to that watershed and the aquifer for public health and safety, and protection of the wildlife and plant species in that areas as well.

II. Appeal Applicants Names:
Abutter: Nancy Scott _____ Date: _____
Address of Applicant: _____

Telephone: work _____ home _____

Other Appeal Applicants:
2) Pennichuck Brook Watershed Council
Signed: Dr. Allan Fuller, President _____
Address: _____
Telephone: _____

3) Peggy Miller, resident _____ Date: _____
81 Christian Hill Road, Amherst, N. H. 03031
603-672-3758

4) Abutter: _____

_____

_____

III. Purpose of Request:

1. **Hardship: Features of the development, if agreed to, that will adversely affect the effect abutters property or deny them reasonable use:**

The impact of the development could pollute the aquifer. Currently that is pristine Class A water. If the drinking water is polluted to any noticeable, measureable amount that causes concern in potential buyers of those having wells in that area, their values will go down. Also use of the rivers for fishing and recreation in that area will be altered if not eliminated. Noise will also drive out the wildlife, changing the natural beauty of the area.

2. **Spirit and Intent: How does the planning board decision violate the spirit and intent of the ordinances?**

The Watershed Protection District ordinance (was Section 4-12, 2002 copy) was created to protect watershed areas with high water tables and lands

draining into wetlands, brooks, ponds or supply areas; this land qualifies under this section.
It also is to control building which would contribute to pollution of surface and groundwater; to prevent destruction of wateshed areas which provide flood protection. It includes lands where filling or relocating will destroy habitats and reproduction areas for plants, fish and wildlife of importance. The development in question, approved by the Planning Board, will pollute the groundwater, possibly to a level that will cause public harm and illness, cause harm to the natural ability to absorb flood waters, and could kill the wild brook trout population, other fish, and beaver, that lives in Peacock and Witches Brook waters.

The Aquifer Conservation District Ordinance (was Section 4-13, 2002 copy) was designed to protect the water supply and quality for the health and safety of the town's citizens. The water supply is also to provide an ecological balance of the natural environment of the Town. These waters, whether above or below ground, are to be protected, conserved and managed for future generations and are to be protected from contamination by polluting, hazardous or toxic materials.

The Rais-Crest condominium development will pollute the water with nitrates, viruses, and toxics, and eliminate natural protections of its supply levels and its water quality and ability to be used as a drinking water source.. The ordinance says these water are finite and need to be protected. The development will cause pollution, sedimentation, destruction of necessary buffers and wetlands that protect the quality, and destruction of recharge capability. The Bon Terrain Well will be impacted and thus the users of that well will be impacted adversely.

3. Impact on Property values if Planning Board decision is not revoked:
Property values will diminish from loss of natural beauty of the area, from pollution of the water supply, and loss of recreational and wildlife attributes of the area.

4. **Public Benefit**:
If the Zoning Board stays the Planning Board decision and decides that the development of Rais-Crest is not to be allowed, then all users of Bon Terrain

Well water, approximately 783 in the town at the present time, as well as all users of the aquifer, including those in Hollis, Milford, Merrimack and Nashua, will be protected from increased nitrate and infectious viruses in the aquifer. And the cost of water will remain lower for all users on the Pennichuck water system because clean up will not be necessary due to pollution from the development.

5. **Substantial Justice**: If the Zoning Board decides against the development justice of equity will be granted to the applicants. The solution will provide a fair and equitable approach to maintaining the water and natural resources for all to enjoy.

6. **Current Use:** The current use of this land is as open, privately held, space that wildlife live in, that is a strong protector of the water supply and an excellent recharge source for the aquifer beneath. If the Planning Board decision is upheld and a 77 unit condominium development is allowed there, then all of that will be lost.

We hereby acknowledge that the above stated is true.

Applicants:

_____ Date:_____

_____ Date: _____

_____ Date: _____

_____ Date: _____

ANSWERS--- STILL NEEDED FROM THE AMHERST PLANNING BOARD

June 4, 2003

a] Will there be any restrictions on children residing in the 'Summerfield Elderly Housing Community' either with the initial sale of the units or when they are re-sold? When they are passed down to the 'senior' residents heirs??

b] Will the anticipated tax revenues to the community be greater than your local costs (read taxes) for schools and other services? How much will actually be put into the town bank account annually? The Fiscal Impact Statement in the town's record says the net will be $318,403.00 for putting our water at risk.

c] With 26-27 septic tanks to be set on top of our aquifer, and realizing that a leak or a break in the network of pipes leading to them could contaminate the Bon Terrain Well, will the town require any additional safeguards before permitting those pipes?

(Maybe that a bond be required to insure against future contamination costs rather than letting developers walk away and ...the costs for future contamination [resulting from their project] having to be paid by all our local taxpayers??)

d] Why is it we DO NOT have a master plan NOW for the industrial park portion of the development so that total cumulative impacts from both the residential and the industrial proposals can be fully evaluated for long-term effects before permits are given?? What type of industries and businesses will be allowed? What density??

Recognizing that the State requirements leave a lot to be desired, and might even be said to be inadequate as they relate to "business" polluters, what additional safeguards will the town require to prevent pollution of our air and water while the industrial proposals in the development move forward?

e] If your well goes dry--due to contamination, drought or to an increased demand for water drawing down the amount of water available to all of us in the aquifer--where will we go for water?
They will not be able to put in a new well to get an additional water supply to hook us up to (and pay a monthly bill for) if it is all built up or paved over.

1) Do we know if there's enough of a strong water flow in any of our nearby rivers to be tapped for our future drinking water use ??
2) Do we want to have our drinking water drawn from--?-- river after what is dumped into it by unknown others before it reaches us?
(and for the water to require chemical treatment before it is piped to us)
3) Do you want to pay for these services or make decisions to protect our wells now?

f] What is the real density of the Summerfield development when you consider ONLY THE BUILDABLE LAND (likely around 46 acres) within the acreage?

g] Do you believe a traffic study that says 77 condos will result in an increase of only 32 cars per day on Rte.122-- and likely going out onto congested 101-A ? Hmmm! Let's see, 77 units with attached two car garage plus two additional spaces in a common area equals the potential for 308 additional cars. If the driveway of each unit in front of the garage parks 2 cars, the number increases to 462; if it parks 4 cars, the number increases to 616.

Since the builder is providing these parking spaces, this is what we must assume to be *the potential* maximum impact on traffic. This obviously translates to be impacts on safety and the general welfare of the neighborhood as well as the entire area's quality of life.

h} What water supply impacts might there be to other communities in the region who also rely on the Pennichuck aquifer?

i} Since, fourteen years ago, a proposed highway by-pass over this area was denied because of concerns for the possibility of impacts to the aquifer and the wetlands, how can this proposal with guaranteed impacts be considered appropriate?

j} Has the location of intermittent streams been identified in the delineation done for this project? Have impacts to them been factored in ? They perform a vital function in helping to carry the water to all of our wells, wetlands, brooks and the aquifer itself.

k} Who is going to enforce all the rules and stipulations you are attaching to this proposal five and ten years down the road?

l} How many of the board members have actually been out to the site and walked it ?

m} As you are aware, at this point ***only you*** have the authority to require a regional environmental impact study and to define its parameters.

The system is constructed such that the first filter with the responsibility to protect the public good is the local Conservation Commission, Zoning Board, and Planning Board. The state **relies on *you*** to be the best informed about your community and your region.

The second filter for oversight of the public good is at the state level and consists of the permitting and approvals processes at the NH-DES which are dependent on the local filter ***first*** giving their stamps of approval. The state has not given the DES the statutory authority to require or even request a regional environmental impacts study (EIS).

Can you assure your citizens and the citizens of neighboring communities that sufficient due diligence has been given this project that it is safe to approve it at this time?

New Hampshire

Department of Justice

February 11, 1998

Wayne E. Vetter, Executive Director

New Hampshire Fish and Game Department

2 Hazen Drive

Concord, New Hampshire 03301

Dear Mr. Vetter:

You have inquired as to the legal standard for determining whether or not a particular river is a public water. The request arises out of an application for an aquaculture license to conduct a fee fishing operation in the North Branch River in Stoddard, New Hampshire. The Department's administrative rules, Fis 807.02, prohibit aquaculture operations in public waters.

For the reasons set forth below, I conclude that a river which can be traversed by canoe or kayak under ordinary conditions for some portion of each year, or which is capable in its natural state of providing some other useful service to the public, is a public water. The Department of Environmental Services is the appropriate agency to conduct a factual inquiry into whether the North Branch River meets this test.

Under the public trust doctrine, all public waters are held in trust by the State for the benefit of the public. Opinion of Justices, 139 N.H. 82 (1994); Concord Mfg. Co. v. Robertson, 66 N.H. 1 (1889). Public waters may be used to boat, bathe, fish, fowl, skate, cut ice, and other lawful and useful purposes. Hartford v. Gilmanton, 101 N.H. 424 (1958); State v. Sunapee Dam Co., 70 N.H. 458, 460 (1900). Public waters include tidal waters, great ponds of 10 acres or more, and certain rivers. RSA 271:20; Opinion of Justices, 139 N.H. 82; St. Regis Paper Co. v. New Hampshire Water Resources Board, 92 N.H. 164 (1942). Rivers are distinguished from other public waters by the fact that the submerged land below the river may be privately owned, even when the water itself is held in trust by the State. New Hampshire Water Resources Bd. v. Lebanon Sand and Gravel, 108 N.H. 254 (1967).

All navigable rivers, as well as "useful" non-navigable rivers, are classified as public waters under New Hampshire law. RSA 271:9, enacted in 1911 and never amended, defines "[n]avigable streams or waters" as those which are used, or are susceptible of being used in their ordinary condition, as highways for commerce, over which trade or travel is or may be conducted in the present customary modes of trade or travel on water, and such term shall not apply to streams or waters which are used merely as public highways for floating logs.

RSA 271:9.

In 1942, the New Hampshire Supreme Court concluded that navigability is not the sole criterion for determining whether a stream is a public water. The inquiry under the common law is factual in nature, focusing on whether the river in question is capable of "useful service" to the public within the context of the public trust doctrine:

When a river or stream is capable in its natural state of some useful service to the public because of its existence as such, it is public. Navigability is not a sole test, although an important one. Although the line between public and private ponds has been drawn on the basis of acreage, that between public and private streams has not been and is to be determined as a question of fact under the test stated.

St. Regis Paper Co. v. New Hampshire Water Resources Board, 92 N.H. 164 (1942). In the St. Regis case, the Court implied that a stream's suitability for transporting floating logs could qualify the stream as a public water, despite RSA 271:9's exclusion of such streams from the definition of "navigable." Suitability for fishing, by itself, does not suffice to make a water public; however, there is a public right to free passage by migratory fish up and down even nonpublic waters. Beach v. Morgan, 67 N.H. 529 (1893)(owner of nonpublic stream has right to exclude public from fishing there); State v. Roberts, 59 N.H. 256 (1879).

A river which can be traversed by canoe or kayak under ordinary conditions for some portion of each year is a public water. Canoeing and kayaking are "customary modes of trade or travel on water" encompassed within the statutory definition of navigability. RSA 271:9; cf. RSA 210:11, I. In addition, recreation is an accepted public use under the public trust doctrine. Hartford v. Gilmanton, 101 N.H. 424 (1958). Thus, recreational boating should be understood to be a "useful service to the public" within the Court's meaning in St. Regis.

The New Hampshire Department of Environmental Services ("DES") is the appropriate state agency to make a factual determination as to the navigability and usefulness of the North Branch River. By statute, DES is responsible for preparing, maintaining, and publishing a list of public waters. RSA 271:20, II. DES' list currently includes great ponds and impoundments, but not rivers and streams. In light of the application pending with your Department, and the fact that certain rivers and streams do qualify as public waters, DES should conduct a case-specific factual inquiry to determine whether the North Branch River qualifies as a public water. DES' inquiry should be guided by the test

set forth in the St. Regis decision, looking first to the river's navigability by recreational watercraft, then, if necessary, to other public uses such as floating logs. DES should not, however, conclude that the river is a public water based solely on its suitability for fishing.

I trust this is responsive to your inquiry. Please do not hesitate to contact me if the Department has further questions.

Sincerely,

Jennifer J. Patterson

Assistant Attorney General

Environmental Protection Bureau

(603) 271-3679

JJP/sed

cc: Robert W. Varney, Commissioner, NHDES

98-1

(70794)

§ 210:11. Setting Traps.

I. No person shall set, arrange or tend any trap upon any land or from the shores of any waters of which he is not the owner or occupant, except such traps as may be placed under water from a boat or canoe or through the ice on any public body of water as defined in RSA 271:20 or on the following named rivers, Androscoggin, Ammonoosuc, Ashuelot, Bear Camp, Contoocook, Connecticut, Cocheco, Exeter, Lamprey, Mascoma, Merrimack, Merrymeeting, Islinglass, Pemigewasset, Pine, Saco, Soucook, Suncook, Winnipesaukee and their navigable tributaries, until he has secured from the owner or occupant a permit in writing signed by said owner or occupant, and until he shall have filed with the conservation officer in whose district said person is going to trap, a copy thereof, together with a description of the land on which trapping is to be done. **Navigable tributary as used in this section shall be defined as those waters from the mouth of said tributary to a point upstream where a person can row a boat or paddle a canoe when the water in the stream is in its ordinary condition.**

As already set out in our answer to your first question, New Hampshire has long recognized that lands subject to the ebb and flow of the tide are held in public trust. "Land covered by public water is capable of many uses." Concord Co. v. Robertson, 66 N.H. at 7, 25 A. at 721. "Rights of navigation and fishery are not the whole estate" but

rather the public trust lands are held "for the use and benefit of all the [public], for all useful purposes . . . ." Id. at 7-8, 25 A. at 721 (quotation omitted); see St. Regis Co. v. Board, {*90} 92 N.H. 164, 170,26 A.2d 832, 837-38 (1942) (public trust encompasses "all useful and lawful purposes"); State v. Sunapee Dam Co., 70 N.H. 458, 463, 50 A. 108, 110 (1900) ("in this state the law of public waters is what justice and reason require"). These uses include recreational uses. See Hartford v. Gilmanton, 101 N.H. 424, 425-26, 146 A.2d 851, 853 (1958) (public waters may be used to boat bathe, fish, fowl, skate, and cut ice).

139 N.H. 82, 89-90 IN RE OPINION OF JUSTICES (S. Ct. 1994)

DES Reports that support protecting the drinking water supplies

Model Rule for the Protection of Water Supply Watersheds, April 2000,
Authors: NHDES-WD-00-3, by NH-DES, Robert W. Varney, Dana Bisbee, Harry Stewart, Anthony Giunta

From Introduction

"Preserving the purity of drinking water supplies has long been recognized as a worthwhile goal." ..... "If raw water degrades to the point where additional treatment is required, the costs can be significant. When excess phosphorus from watershed development caused algae overgrowth problems in Lake Chickawaukie, the estimated cost of a treatment plant for the Camden-Rockland (Maine) Water Company was $6 million."

"New Hampshire law recognizes this challenge. Under RSA 485:23 (see Appendix A), water commissioners, local officials, and local citizens may petition the Department of Environmental Services (DES) to (1) investigate situations where local regulations are not adequate to prevent the contamination of water supply sources and (2) adopt rules for the protection of those supply sources."

"Under these provisions, DES has adopted rules (Env-Ws Part 386) to protect half of the state's active surface sources. (While the statute appears to authorize DES to adopt rules to protect groundwater as well as surface sources, this authority has been used only to protect surface sources, which are the focus of this model rule.) Because the rules have been adopted in response to individual requests from water suppliers and municipalities, each source is covered by a specific section of the rules." "For example, Manchester's Lake Massabesic is protected by Env-Ws 386.47, while Bartlett's Albany Brook is covered by Env-Ws 386.13."

"The development of this model rule was prompted by at least four factors:

□ Some parts of New Hampshire have experienced tremendous growth in recent years, with inevitable consequences for water quality and the natural replenishment of water supplies. As water supply watersheds become more and more developed (or better yet, before they do), particularly as a result of sprawling low-density residential and commercial expansion, water suppliers need to consider the full range of tools available to protect their sources.

□ The federal Safe Drinking Water Act Amendments of 1996 have placed stricter standards on the treatment of drinking water from surface sources, particularly with respect to reducing microbial contaminants, while at the same time lowering

the acceptable amounts of disinfectants and disinfection byproducts in water at the tap. These changes make it all the more important to keep sources clean.

□ Approximately half of the state's active surface sources are not yet protected by Env-Ws 386. Until recently, DES's drinking water source protection efforts have emphasized groundwater sources. DES has placed increased emphasis on the protection of water supply watersheds partly as a consequence of the NH Drinking Water Source Assessment Program,[3] which will assess the vulnerability of all public water supply sources by mid-2003.

□ DES realized that many sections of Env-Ws 386 are in need of revision. For the sources that are protected, the provisions of Env-Ws 386 vary significantly from one source to another. This is appropriate, due to different circumstances, different threats, and even different treatment facilities, but it is clear that many of the sections were drafted by copying other sections, without careful consideration to the threats facing each source and the most appropriate protection measures. It is also clear that many of the sections are out of date, partly due to the copying of old rules and perhaps partly due to the process by which the rules were formulated and adopted by DES. In a survey of water systems with Env-Ws 386 rules in effect, two-thirds of the respondents with a protective buffer of 75 feet felt the buffer should be 200 feet, at least for their

sources.

Previously, DES required water suppliers to have the rules adopted on the local level before proposing them for adoption by DES. Recognizing that this process served in some cases to discourage water suppliers from proposing rules, DES will now follow the process described below ("How to Get This Rule Adopted"), which is designed to more effectively balance the need for water supply protection with local interests.

"Appendix A

Excerpts from RSA 485

485:23 Petition to Protect Water Supplies.

I. Whenever any board of water commissioners, local board of health, local health officer or 10 or more citizens of any town or city have reason to believe that a public water or ice

supply is being contaminated or is in danger of contamination, and that the local regulations are not sufficient or effective to prevent such pollution, they may petition the department to investigate the case, and to adopt rules under RSA 541-A as the department may deem necessary for the protection of the said supply against any pollution that in its judgment would endanger the public health. Citizens petitioning under this section shall designate a signatory of the petition as the person to whom the department shall send its response. "

NEW HAMPSHIRE ENVIRONMENT 2001

Prepared by
New Hampshire Department of Environmental Services

October 2002

Another area of prevention is related to petroleum, either virgin product or used oil. Oil is a common groundwater and surface water contaminant. It takes only one pint of oil to produce a one-acre oil slick or one quart to contaminate 250,000 gallons of groundwater. In order to provide residents with convenience in disposing of used oil, the State provides grants to municipalities to encourage the collection of used oil.

NHDES-WD-99-7

NONPOINT SOURCE MANAGEMENT PLAN

STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
6 HAZEN DRIVE
CONCORD, NH 03301
October 1999
ROBERT W. VARNEY
COMMISSIONER
G. DANA BISBEE
ASSISTANT COMMISSIONER
HARRY T. STEWART, P.E.
DIRECTOR
WATER DIVISION

"In addition to affecting water quality, urban development can alter runoff regimes, stream flows, channel morphology, and groundwater recharge patterns. Increased runoff from impervious surfaces causes higher peak flows and lower base flows, potentially creating seasonal streams from

perennial streams. Horner et al. (1994) state that information consistently indicates that impervious surfaces over 10 percent of a watershed create "significantly negative hydrologic, habitat, and ecological responses" because imperviousness changes the way water cycles through the watershed. Trees no longer intercept precipitation, and the storage capacity from trees and other vegetation is lost. Natural depressions are filled in. Pavement and structures prevent infiltration and promote surface runoff."

"Not only is more water removed from the watershed, but it is removed more quickly under urbanized conditions than under natural conditions. As a result, streams during and after a storm must accommodate more water, with consequent potential for more flooding and stream bank/channel erosion; during periods of drought there is less groundwater to provide base flow. Leopold (1968 *in* Horner et al. 1994) identified a common increase in peak flow runoff rates from urbanized watersheds compared with preurban settings of two-to-five fold, with some streams showing even more marked increases."

"Similarly, DES found from 2 to 14 times higher pollutant loadings in the stormwater draining a relatively high density urban land use area than in runoff from a light to medium density single family home area."

"*Pathogens* in the waste stream that enter surface or ground water may cause human health problems directly or indirectly, through ingestion of contaminated fish, mollusks, and other seafood. High concentrations of indicator organisms cause shellfish bed closure in New Hampshire=s coastal estuaries. Although toxic materials in groundwater are more often responsible for life-threatening illnesses, pathogens from faulty septic systems are the cause of most groundwater-related health complaints nationwide (Yates 1985 *in* US EPA 1993). Research indicates that bacteria and viruses can travel more than 1,000 feet under saturated soil conditions, with bacterial survival times of 3 - 6 weeks and even longer viral survival times (Gerba 1985)."

"Elevated nutrient and bacterial levels in rivers have also been presumptively linked with subsurface systems. In their 1992-93 study of the Oyster River and tributaries Jones and Langan (1993) documented elevated levels of both contaminants, which they inferred were caused by onsite septic systems, as well as urban runoff and agricultural operations. A follow-up land use analysis of Johnson Creek, a tributary to the Oyster River, identified private subsurface disposal systems associated with residential development and a sewered trailer park as *probable* sources of excessive nutrients and bacteria (Jones and Langan, undated)."

JAWORSKI
GEOTECH, INC.

SERVICES
- Geotechnical
- Environmental
- Construction Monitoring
- Materials Testing

June 2, 2003

Mr. Charles R. Tiedemann, Zoning Administrator
Town of Amherst
PO Box 960
Amherst, NH 03110

Advance Copy by Fax

Re: Map 2/Lot 2 & Lot 26
Summerfield Condominium
Route 122
Amherst, New Hampshire

Project No. 03340G

Dear Mr. Tiedemann:

In accordance with your May 13, 2003 request, Jaworski Geotech, Inc. is pleased to present this review of hydrogeologic and stormwater studies completed by others for the Summerfield Condominium project proposed for the above-referenced property.

We understand that the Amherst Planning Board has a number of concerns, which include:

1. the potential impact to the Bon Terrain Well (BTW) cone of influence;
2. the potential effects that the subsurface and surface storm water management system may have upon the temperature of Witches Spring Brook; and
3. the effects that the project may have upon the aquatic habitat within Witches Spring Brook.

Our review was based upon information obtained from the following:

1. A letter prepared by ENSR International (ENSR), dated April 29, 2003, titled *Executive Summary and Data Transmittal, Hydrogeologic Study, Summerfield Condominium Project, Amherst, NH.*

2. *Stormwater Management Report Summerfield Condominium, Amherst, New Hampshire* prepared by Meridian Land Services, Inc. (MLS), January 31, 2003.

3. Letter dated March 31, 2003 from MLS regarding revised site plans.

77 Sundial Avenue, Suite 401W
Manchester, NH 03103
(603) 647-9700 Fax 647-4432

114 Woodlawn Road
Berlin, CT 06037-1535
(860) 829-1725 Fax 829-1745

4. *Supplemental Drainage Comps Summerfield Condominium, Amherst, New Hampshire* prepared by MLS, May 1, 2003.

5. A Memorandum dated March 28, 2003 from Mr. Gabe Gries, Region 4 Fisheries Biologist.

6. An undated letter and attached enclosure from Mr. George A. Woodbury, Pennichuck Watershed Council, which was sent via facsimile by your office on May 27, 2003.

7. Various information published by the United States Geological Survey (USGS) contained in our library.

HYDROGEOLOGIC STUDY

The information presented in ENSR's letter is limited; however, the tone of the letter suggests that a more complete report is forthcoming. If this is the case, we recommend a review of that submittal as well.

ENSR provided test boring and well completion logs for three of the four monitoring wells that were installed under their supervision. Logs were not provided for MW-362. Information regarding this well is important because this well appears to be the farthest upgradient on the site and would serve as a background well for both groundwater elevation and for groundwater quality.

ENSR analyzed data from a 7-day (April 2 – 9, 2003) pumping test of the BTW, apparently conducted by Pennichuck Water Works. The test appears to have been conducted with the well pumping into the distribution system and accordingly, the pumping rate fluctuated from between 518 gallons per minute (gpm) and 618 gpm. Standard aquifer testing is based upon constant rate pumping tests. If the pumping rate varies, averages must be incorporated that may introduce errors in the conclusions. ENSR states that values for hydraulic conductivity were obtained from the literature and by performing standard analyses of the pumping test data. However, the information presented in the letter does not indicate that adequate data were available for ENSR to effectively analyze the aquifer coefficients for predictive analysis.

Hydrographs showing the elevation of groundwater in 11 monitoring wells are provided on Figure 3; however, the BTW was not included on the hydrograph. Data from Pennichuck Water Works for BTW includes only one depth to water measurement made (obtained) on each day of the pumping test. A number of the plots on Figure 3 indicate that BTW appeared to achieve water level stabilization within a short period of time after pump start up.

Relative to the effects of the subsurface waste water disposal systems (SWWDS), ENSR states that mounding was not considered in the analysis. The disposal of waste water into a leaching

field may represent a significant source of recharge to the aquifer. This is discussed further below.

During aquifer testing it is important to monitor the effects on local surface water bodies. ENSR stated that site conditions were not amenable for stream flow measurements on Peacock Brook. Does this mean that there was no flow in Peacock Brook or that there were no good places to measure stream flow? How far apart are the piezometers and where are they located with respect to the brook? The construction diagram for the deeper piezometer PZ-AD, indicates that the water level is 0.16 foot above grade surface. The water level suggests that the brook would be a "gaining stream," receiving groundwater discharge. In addition, PZ-AD showed a few tenths of a foot of drawdown during the pumping test, while PZ-AS showed no effect.

Based upon information from the USGS, the base flow of Witches Brook at the culvert crossing Merrimack Road is 4.45 cubic feet per second (ft^3/sec). Individual base flow measurements made at three locations upstream from the confluence with Peacock Brook total 3.01 ft^3/sec. The difference between these two values is 1.44 ft^3/sec or about 0.9 million gallons per day (mgd) or 625 gpm. If this value is close to accurate and the BTW is operated continuously at the maximum flow rate of 640 gpm, then most of the base flow of Peacock Brook would be eliminated. The brook would then be a "losing" stream when there was flow in it after a storm event.

ENSR states that their study was influenced by significant groundwater recharge conditions that existed in March to April. We agree that results may be different during drier seasons or years. However, the effect may be contrary to what might normally be expected. Although ENSR's letter does not state it, we assume that the aquifer is unconfined, i.e. the water table is contained within a formation that does not have shallow clay layers that would otherwise isolate it from the atmosphere. Transmissivity (T) is the rate at which groundwater travels through a unit width of the entire thickness of the aquifer under a unit hydraulic gradient. Values of T are calculated from aquifer tests. Wells with a higher T can produce more water with less drawdown than wells with lower values of T. However, the cone of influence for a well with a high T is shallow with flat sides and extends outward to a greater radius than does a well with a lower T value that has a deeper cone of influence (more drawdown) and a smaller radius.

T can also be calculated by multiplying the hydraulic conductivity (K) by the aquifer thickness. K is the rate of flow of water through a square foot cross section of material under a unit hydraulic gradient. During dry periods when recharge to the aquifer is diminished, the saturated thickness of the aquifer will decrease as water levels decline. With decreased saturated thickness, the T will decrease and therefore more drawdown will occur and the cone of influence will decrease. In addition, with decreasing T and increasing drawdown in the pumping well, the pumping rate might have to be cut back to prevent the pump from being dewatered. Obviously, by cutting back on the pumping rate, the cone of influence would decrease an additional amount.

As previously stated, Figure 3 suggests that the BTW was operating in equilibrium at the average pumping rate reported by ENSR of 535 gallons per minute (gpm). Given the apparent equilibrium conditions, duration of pumpage would not alter the radius of the cone of influence. Changes in the radius will occur with variations in the pumping rate and changes in the saturated aquifer thickness.

The discussion above is important when considering the impact of the SWWDSs. Two factors come into play in this regard; first is recharge of water into the aquifer; second is the prevention of contaminants from entering the aquifer. Based upon the ENSR analysis, all of the SWWDSs east and due south of the BTW are either upgradient of the BTW cone of influence or are within the cone. We understand that each condominium unit will have two bedrooms. Information from MLS contained in the ENSR letter indicates that each bedroom contributes 150 gallons per day (gpd) to the SWWDS. The plans call for 77 units; therefore, 23,100 gpd could be discharged into the SWWDSs for recharge into the aquifer. According to the USGS, in water sheds completely covered by stratified glacial drift deposits, about 50 percent of the annual precipitation (about 22 inches), or 1.05 million gallons per day per square mile (mgd/mi^2) is available for infiltration. Accordingly, the potential total infiltration from the SWWDSs is about 24 percent of the natural infiltration amount. Mounding analysis of the SWWDSs would be prudent to evaluate the infiltration potential and to allow for optimum design of the systems.

The downside of SWWDSs is potential contamination of the aquifer. Sewage from domestic dwellings consists of over 99 percent water by weight, 0.02 to 0.03 percent suspended solids, minor amounts of soluble organic and inorganic substances, and bacteria, viruses and other microorganisms. Well-designed, constructed and maintained SWWDSs work quite well in the disposal of wastewater. Problems arise when there are too many systems within an area and when inappropriate substances such as solvents, gasoline, oil, grease, paint thinners, degreasers, water softener backwash brine, certain detergents, etc. are discharged into the systems. ENSR reported that the developer has agreed to move the two closest leaching fields farther away from the BTW and that measures will be implemented to educate the residents regarding disposal of materials into the SWWDS. Further, ENSR's understanding is that Best Management Practices will be instituted by appropriate parties relative to the application of fertilizers and pesticides within the development.

Based upon the limited data available, we are in agreement with ENSR's interpretation of the pre and post BTW test flow nets shown on Figures 1 and 2, respectively. With respect to the time of travel of groundwater (TOT) from a given location to the BTW, we believe that more information is needed to limit the range of K for meaningful analysis. However, we evaluated the TOT in two slightly different ways than ENSR. In the first method, we used the geometry of the cone of influence and incorporated known and estimated variables for site conditions. The TOT from the closest SWWDS (system "E") to the BTW was calculated as follows:

$$t = \frac{\pi r^2 m \theta}{Q*1440} \div 7.48 \text{ gallons/ft}^3$$

Where: t = time in days
r = distance to the BTW = 560 ft
m = aquifer thickness = 35 ft
θ = porosity of the soil = 25%
Q = pumping rate of the BTW = 640 gpm

Therefore: $t = \frac{3.14(560\ ft)^2 * 35\ ft * 0.25}{640\ gpm * 1{,}440\ min/day} \div 7.48\ g/ft^3 = 70\ days$

We also calculated the TOT using the minimum T of 8,000 ft^2/day that the USGS assigned for this area of the aquifer and by using Darcy's Law as follows:

$$V = \frac{KI}{N}$$

Where: V = groundwater velocity in ft/day
K = hydraulic conductivity = 8,000 ft^2/day ÷ 35 ft = 230 ft/d
I = average groundwater gradient from system "E" to the BTW = 0.01
N = porosity of the soil = 25%

Therefore: $V = \frac{230\ ft/day * 0.01}{0.25} = 9.2\ ft/day$

And: TOT = 560 ft ÷ 9.2 ft/d = 61 days

An approximation of nitrate loading/dilution within the aquifer was calculated as shown below. We assumed a worse case condition that discharge from 50 percent of the SWWDSs flows toward the BTW. Therefore, 39 condominiums contribute 300 gpd waste water or 11,700 gpd total. We also considered that the nitrate in groundwater would be diluted from precipitation. We assumed a recharge area of about half of the 58-acre parcel and used an annual recharge rate based upon a USGS approximation of 22 inches/year. Domestic sewage typically contains about 40 mg/l of nitrate-nitrogen of which about 40 percent is trapped in the septic tank sludge or is discharged to the atmosphere as nitrogen or ammonia gas. This leaves a typical concentration of 24 mg/l or 60 percent of the nitrate-nitrogen effluent for discharge to the soil beyond the biologic zone of the leach field. Given the conservative assumptions, the average nitrate concentration leaving the subject site would be:

$$L = \frac{(D*C) + (I*P_n)}{(D+I)}$$

Where: L = nitrate loading/dilution in the aquifer
D = daily sewage discharge = 11,700 gpd
C = nitrate concentration in wastewater = 24 milligrams per liter (mg/l)

I = infiltration = 22"/yr = 1,640 gpd/acre * 29 acres= 47,560 gpd
P_n= nitrate content of normal rain water = 0.5 mg/l

Therefore: $$L = \frac{(11{,}700 \text{ gpd} * 24 \text{ mg/l}) + (47{,}560 \text{ gpd} * 0.5 \text{ mg/l})}{(11{,}700 \text{ gpd} + 47{,}560 \text{ gpd})} = 5.1 \text{ mg/l}$$

We believe that the nitrate value is conservative and will likely be less. The calculation overly simplifies site conditions and may over estimate the number of SWWDS that have the potential to contribute nitrate to the BTW cone of influence. Additional nitrogen loading from landscape fertilizers could add roughly 2 pounds per 1,000 ft^2/year. At this time, information is not available regarding the total area that would be completed as landscaped areas requiring fertilization.

It should be noted that the USGS states that in southeastern New Hampshire, evapotranspiration can decrease the total annual recharge by 5 percent. Any decrease in aquifer recharge would decrease the dilution of nitrate and consequently increase the nitrate concentration potentially leaving the site.

STORMWATER MANAGEMENT SYSTEM AND AQUATIC HABITAT

Attached to this report is a letter from Mr. Jeffrey C. Orchard, a certified wetland scientist and environmental consultant, which summarizes his review and evaluation of the stormwater management system and the potential effects on the aquatic habitat of Witches Spring Brook. Mr. Orchard's opinion is that the stormwater management system as designed appears to adequately provide effective control of stormwater runoff during periods of peak flows. The stormwater management system provides for detention and treatment of peak flows thereby allowing time for sediments to settle out and to allow elevated water temperatures to moderate by contact with vegetation and substrate before being discharge offsite. In addition, the distance from the single 12-inch pipe discharging into Peacock Brook and Witches Spring Brook is substantial, allowing for mixture of treated water with the naturally elevated stream flows occurring during storm events. Accordingly, there will be a negligible affect on the water temperature in Witches Spring Brook.

RECOMMENDATIONS

The following recommendations are made based upon our evaluation of the materials reviewed:

1. A formal constant rate pumping test should be conducted on the BTW for a minimum or 24 hours. Values of T and storativity should be calculated for the BTW and all monitoring wells used as observation points during the testing.

2. Stream flow or water level measurements should be conducted in Peacock Brook and Witches Spring Brook before, during and after the pumping test. The information should be used to evaluate the base flows of the two brooks and the effects (if any) produced by BTW pumping. We agree with the plan to establish temperature recording stations at the confluence of Peacock and Witches Spring Brooks.

3. Mounding analyses and nitrate loading should be completed for the SWWDSs.

4. If the developer intends to install landscape irrigation systems, recharge and nitrate dilution values should be reevaluated to allow for the losses from evapotranspiration (evaporation of water at and above grade and transpiration [release] of water through plant leaves, etc). It may be prudent to place controls on when and how much water is used for irrigation.

5. Fertilizers, pesticides and herbicides used on landscaped areas should be applied judiciously by an EPA-licensed applicator. Particular care should be taken during the construction phase when applying fertilizer and lime to treatment swales as they are seeded.

6. Permission should be obtained from the New Hampshire Department of Environmental Services to install at least two monitoring ("sentry") wells within the 400-foot sanitary radius of the BTW. A program should be established to monitor groundwater levels and water quality on a quarterly basis in the new wells in addition to wells MW-360S, MW-360D, MW-361, MW-362, MW-363 and MWN.

7. Because of the sensitivity of the area and relative closeness of the development to the BTW, it may be prudent for the developer to consider using an alternate SWWDS that incorporates advanced aerobic and/or anaerobic treatment and filtration.

We thank you for this opportunity to offer our services and look forward to working with you further on this project. Should you have questions or require additional information, please feel contact me at 206-1122.

Very truly yours,

JAWORSKI GEOTECH, INC.

Michael R. Burke, PG
Vice President

/mm

Attachment: Letter report dated May 30, 2003 from Mr. Jeffrey C. Orchard

STATE OF NEW HAMPSHIRE
MICHAEL R. BURKE
No. 283
LICENSED PROFESSIONAL GEOLOGIST

Stephen G. Pernaw & Company

47 Hall Street, Suite 3 • Concord, NH 0330
tel: (603) 228-5750 • fax: (603) 228-5886 • sgp@lr.ne

Transportation: Engineering • Planning • Desig

TRAFFIC IMPACT ASSESSMENT – SYNOPSIS

RAIS-CREST LLC

AMHERST ZONING BOARD OF ADJUSTMENT MEETING – NOVEMBER 19, 2002

The Traffic Impact Assessment for the proposed 84-unit age-restricted (55+ years) condominium project on NH122 has determined that this project will not significantly impact traffic volumes on the highway and that the proposed site access road intersection on NH122 will be safe and efficient from a traffic engineering standpoint for the size and type of development that is proposed. Pedestrian access to and from the site is expected to be minimal, and thus is not a safety concern, since a walking trail system is proposed within the site. These conclusions are based in part on several key findings from the study:

1. **NH122 is a low-volume highway** – this section of NH122 is a low-volume highway as it carries fewer than 5,000 vehicles per day. Recent peak period traffic counts at the site indicate that 429 vehicles passed the site during the worst-case PM peak hour period on a typical weekday in October 2002.

2. **The proposed use is not a major traffic generator** – The site is expected to generate 33 (AM) and 39 (PM) peak hour trips on an average weekday basis. By way of comparison, the age-restricted units generate less than half of the peak hour traffic that is normally associated with a conventional residential subdivision.

3. **Favorable intersection operations will prevail** – The proposed site access road intersection on NH122 will operate well below capacity and at the highest Levels of Service attainable (LOS A and B) during all hours of the day, through 2013. This means that traffic congestion will not result.

4. **Roadway widening is not required** – Auxiliary turn lanes are <u>not</u> required on any approaches to the intersection. Nevertheless, the proponent is working with the NHDOT to provide bypass lane capabilities on NH122 for southbound through traffic as an added safety measure, if required by District Five.

5. **Ample sight distances are available** – The sight distances looking left and looking right from the subject driveway up and down NH122 exceed the NHDOT driveway permit requirement and the AASHTO stopping sight distance requirements by a considerable margin.

This section of NH122 is under State jurisdiction and this project requires the review and approval of the NHDOT – District Five through the Driveway Permit system. This permit is a prerequisite for site development and will be obtained prior to construction.

Amherst ZBA blocks elderly housing plan

By Peggy Miller
Cabinet staff

AMHERST— A missing comma in the town's elderly housing ordinance may be holding up plans for a housing complex at Bon Terrain.

A 116-unit elderly housing project is proposed for the southwest corner of the 300-acre Bon Terrain property, adjacent to Route 122, just south of Route 101A.

But the zoning board recently denied the developers' application because language of the town's elderly housing ordinance does not seem to allow single-family homes in such a complex.

Zoning board Chairman Doug Kirkwood said one sentence in the ordinance is the crux of the issue. The language says, "each dwelling may be a single structure or a cluster of connected structures containing not less than 2 nor more than 12 dwelling units."

If there were a comma after the words "single structure" then it would have clearly supported single-family units, said Sally Wilkins, planning board chairwoman. She said that was the intent of the ordinance.

Many of the units in the planned development are single family, and zoning board members felt that it did not follow the ordinance's intention. There are also concerns that the development does not meet wetlands setback restrictions. Some board members feel a provision within the wetlands ordinance that "no wetland may be used to satisfy minimum lot requirements in any zone" was being disregarded.

'About half the board believes that the language was misinterpreted.'
Sally Wilkins

At the request of Meridian Land Services, Inc., on behalf of developers Mark Prolman and Richard Raisanen, the board will reconsider the proposal on Nov. 19.

Wilkins said that the planning board has made amendments to the language, and there will be a public hearing on Nov. 13. The amendments eliminate that paragraph so that any kind of single family or multi-unit configuration would be allowed, on a case-by-case basis.

"About half the board believes that the language was misinterpreted by the zoning board, but the other half understood the confusion and felt the language had been badly drafted," said Wilkins.

The intent of the language had been to allow single-family and multi-units, she said.

Zoning board member Bill Burris said many board members feel the ordinance's language clearly denies the construction of single-family homes.

Cabinet Nov 27, 2002

Lawyer defines 'clause' for zoners

They buy his explanation, approve his client's building plan

By Peggy Miller
Cabinet staff

AMHERST—Grammar books may become a requirement at zoning board meetings, but they weren't around last week.

At the board's Nov. 19 meeting, Brad Westgate, lawyer for the developers of the Bon Terrain property, came up with a definition for "clause," and applied it to the town's elderly housing ordinance and convinced three ZBA members he was right.

The board then voted 3-1-1 to approve the developers' request for a special exception for 84 units of multi-family and single-family elderly housing.

The ZBA had rejected the request earlier, saying the language of the ordinance was ambiguous, and it was unclear whether single dwelling units were allowed. They had also rejected it because of concerns about impact on wetlands and whether the plan adhered to setback requirements.

Meridian Land Services, on behalf of developers Mark Prolman and Richard Raisanen, returned last week with a new site plan, with 84 units, instead of the previous 116, to address concerns about wetland setbacks.

The issue of ambiguity came up because of a single clause within the sentence in the ordinance called "Multi-unit residential dwellings" which says "each dwelling may be a single structure or a cluster of connected structures containing not less than two nor more than twelve (12) dwelling units."

But Westgate argued that the words "or a cluster of connected structures" was a second clause. He then quoted from a book that said a modifier (such as "containing not less than two nor more than twelve (12) dwelling units") only applies to the second clause when there are two clauses.

Susan McCarthy was the only board member who expressed discomfort with Westgate's opinion and voted against the special exception.

"Why should we listen to the lawyer for the developers?" said McCarthy.

Earlier, in a telephone conversation with the Cabinet, Chairwoman Sally Wilkins had said that the language of the ordinance was ambiguous and said the planning board would redraft the ordinance to eliminate the ambiguity and put it before the voters in March.

The development site plan calls for a combination of 84 duplexes and single family units to be built off of Route 122 on a portion of the 300- acre Bon Terrain land just south of Route 101A. Each unit will have a two-car garage, and a condominium association will manage the development.

ZBA member Bill Burris supported the request for a special exception even though he had been unhappy with the ambiguity of the ordinance's language. He also that people would be unhappy living at that development because of the traffic during summer months from the Hollis flea market and car auctions along Route 122.

Ken Nichols, for unstated reasons, abstained.

Some abutters are also concerned about the development.

Gregory Boghigian, an attorney for Richard D'Ermilio of 175 Hollis Road, said that there was no way to stop grandparents from buying the units and then moving in with grandchildren and said traffic was a major concern.

He also said that the town would have been better off with a normal development that would probably have only allowed only 20 homes.

"I think they are asking for a zoning change so they can pack in extra housing," said Boghigian. "This puts a heavy load on traffic."

Ingrid Michaelis, a local realtor, said that banks tend to make sure that children are not part of the mix when someone is buying an elderly housing unit.

Susan MacIntosh of 171 Hollis Road, was concerned about traffic.

"This will add a great increase in people and traffic to that road. Also the way the road curves there makes it more dangerous," she said.

Amherst still waits on water move

By Peggy Miller
Cabinet staff

AMHERST—Selectmen faced a full-court press from Bedford officials Monday night but continued to sit on the fence when it came to joining efforts to form a regional water district to buy the Pennichuck Corp.

"I expect that we will have a warrant article on this," said selectmen's Chairman Bob Heaton after the meeting. "But the town can't make a financial commitment until we have a warrant article, so this has to be done in stages."

Karen White, Bedford's planning director, told The for Public Service of New Hampshire, was not taking a strong stand because of rumors she had heard that PSNH is going to oppose the regional water district legislation at the state level.

But Heaton said that he has not been approached by PSNH's governmental affairs people at all, though he said he would not be surprised if PSNH ended up with such a position just because the legislation would allow municipalities to form regional utilities also, which could end up costing PSNH money.

"I could understand, from a selfish point of view, that we

Even so, Amherst selectmen are not driving forward on a regional water district, and there is little time left for Amherst to ponder.

On Dec. 10 the Public Utilities Commission (PUC) will listen to all towns concerning the acquisition of Pennichuck by Philadelphia Suburban Corp. By the end of February, the PUC will rule on the purchase.

Many towns, including Bedford, Londonderry, Pittsfield and Hudson, which have been part of the Pennichuck water system, are concerned about such a sale because of the loss of control to Nashua to first buy Pennichuck, and then form a regional water district that would purchase the company from Nashua, said White.

"You can draft a warrant article that would allow the town to vote for or against a regional water district, and if the financial numbers indicate that this would be a bad idea, then you can pull the warrant article before the March vote," said White,

Bedford is calling for a meeting on Dec. 5 of all towns that are part of Pennichuck's water system to discuss the proposal for a regional district.

"We will definitely have

THE AMHERST CITIZEN

Nov 27, 02

Summerfield Condos Project Tabled By Planning Board

No big rush to approve elderly housing project.

BY CLIFF ANN WALES

"It's a huge project, and I want to take more time to review all the information we have," said chairwoman Sally Wilkins as she tabled the Summerfield project for two weeks.

For three hours in a crowded meeting room with lawyers, developers, experts on water, fish and fertilizer and annoyed abutters, the Amherst planning board listened to advice from experts as they continued to review a project for 77 elderly housing condos to be built on Route 122 near the Hollis town line.

To start the meeting Ms. Wilkins told the audience that "We're not revisiting old material. I will gavel you down if you try to rehash old material," she said.

In addition, she advised speakers that they are expected to back up any allegations of inaccurate material. "The material presented here is presumed to be factual and professional. It has been sent out for review and expert opinions," she said.

"This board," she continued "is prudent, methodical and not obstructionist."

She explained that the project was being reviewed for compliance with the law. "If you don't like our zoning laws, there is a process by which you can change them. I'm not going to entertain those discussions tonight. It's irrelevant."

Mark Prolman and Dick Raisanen are the developers of Summerfield, an elderly housing project of 77 condos on land owned by Tamposi. Because of the location there is a potential for contaminating the Bon Terrain well and the surrounding aquifer. The Pennichuck Corporation is concerned about water, pesticides and hazardous material in drains. It is reported that two bedroom condos will sell for approximately $350,000.

Michael Burke, a hydro geologist with Jaworski Geotech voiced his concerns with a previous report submitted by ENSR International and made the following recommendations: a constant rate pumping test should have been performed, initiate water level management in the surrounding brooks (Peacock and Witches Spring Brooks), perform mounding analysis and nitrate loading, place controls on irrigation systems, install one or two more monitoring wells and a need for more protection for leaching fields and treatment systems.

Mr. Burke also said, "I don't want to sound like an alarmist but it's my job to advise the town to be careful. Based on my experience it may be prudent to do an alternate septic system because the leach field is close to the Bon Terrain well and cone of influence."

Ms. Wilkins said that the biggest concern in everyone's mind is the dumping of a contaminant in to the system. The development is inside the aquifer recharge area.

Jeffrey Orchard, an environmental studies expert reported that there will be no effect from the discharge of storm water into

Condos | *page 3*

Condos | *continued from page 1*

Peacock Brook. The water temperature will not be raised. The water temperature was a concern because of the fish population in the brooks.

Tom Morin of Morin's Landscaping and Lawn Service presented a detailed environmentally friendly lawn and pest care program for this highly sensitive area.

Planning board member Don Bouchard said, "The differences in the ENSR report and the Jaworsky hydrology report are very minor. I'm not comfortable asking the applicant to bring back another report. My conscience is clear."

Ms. Wilkins said she wanted to see more calculations on the nitrate loading with the landscaping numbers added in.

The Summerfield project falls under the federal guidelines for elderly housing. Residing in 80% of the units must be at least one person 55 years of age or older. This restriction applies in a resale also. 20% of the units have no age restrictions.

Resident Peggy Miller who presented research on leach fields to the planning board later said, "Expert testimony and research indicates reason to postpone development of Summerfield until more study has been undertaken. I am shocked that the planning board appears to be disregarding the information and ignoring abutters concerns when they have the right to say no to this development if drinking water quality is threatened."

Concerned citizens weren't pleased with many of the answers to their questions. Nancy Scott presented a petition with signatures from fifty residents requesting that the application be denied.

In response Ms. Wilkins said, "Petition signatures has no bearing on the board's decision on how land is to be developed. Being opposed is not a legal reason for approving or denying an applicant. Our decisions are based on the law and whether the applicant has addressed the law."

The application was tabled for two weeks for review. It will be untabled at the June 18th meeting with no public input.

Development Threatens Drinking Water

To the editor:

I received a phone call from my neighbor - we both live on Route 122 - she in Amherst (Hollis Road) and I in Hollis (Silver Lake Road). She informed me that a developer wishes to build a 77 unit elderly housing condominiums on 58 acres of land on Route 122 in Amherst. This was the first I had heard of this proposal. She asked me if I would accompany her to the board meeting that evening (May 7th). After the developer's presentation, I was amazed at the magnitude of this development that was up for approval. I am not against a housing development. Perhaps 10 or 20 new houses being built on this site — but, 77 units! There were many issues: Traffic congestion on Route 122 - especially during the Antique Car Show/Flea Market Sundays; problems that could effect the wild trout in the Witches Spring; Ambulance/Police/Fire Truck access getting to the elderly — which would be inevitable; Side walk construction and how it would affect our country road; Not to mention, that a development of this size, would be out of character to our rural surrounding; but, most of all, and most important, the effect that this proposed development would have on our drinking water supply. These condominiums would be situated directly on top of our Aquifer! It brings to mind when I moved here fifteen years ago, there was a proposal to build a Bi-Pass Highway over this Aquifer and it was turned down because of the concern it was to our water supply. I am quite amazed that just fifteen years later developers are trying to sneak in another hazard to our environment — placing 77 toilets on top of our drinking water??

Kathleen Poirier
Concerned Citizen
Hollis

Memo: To Amherst Planning Board From Peggy Miller

Re: Summerfield Condo's project and issues with leach field standards

The Seasonal High Water Table in numerous parts of the Summerfield Condo area is at 3 feet below ground surface. The water is covered by sandy soil that percolates at a two minutes/inch rate according to your site plan documents.

What this means is that the septic effluent will drain through the leach field so quickly that it will enter the groundwater with a great potential for pollution.

In Stinson Beach, California, a sandy area, they have now designed standards that say that you must have20 feet between a normal leach field (like those in Summerfield Condos) and the water table if there is a percolation rate between one minute and five minutes per inch. They did so to avoid water pollution and preserve public health.

But rather than a 20 foot soil protection standard, as Stinson Beach has for sandy soils, Amherst's standards call for five feet or four feet, depending on where you are.

In my opinion, only having 4 -5 feet of separation between the leach field and the aquifer groundwater is simply not enough to prevent contamination of the aquifer for other well owners in the area, and is not enough to prevent contamination of the well head water.

I have attached copies of Stinson Beach standards, Buzzards Bay study, article on Cape Cod problems, and various collection of statistics and articles related to increasing problems with water pollution from septic systems and leach fields.

These articles explain some of the problems causing them to take a look at designing better septic systems or having far stricter standards, or both.

This is a Class A water supply. Dumping 84 units of septic flow into that aquifer will not help it, and the possibility of spreading viruses, increasing the nitrogen levels beyond safety, as well as impacting the conditions of the water for other aquatic life is high. The attached articles touch on the ease of spreading viruses through water where leach fields are placed in improper areas. They also talk briefly about the health hazards of nitrogen in the water, which can cause blue baby syndrome and put babies and pregnant women among others at risk.

I ask that you delay on this Condo development, while we look for a sanitation engineer versed in such issues to come in and speak to the

Plan May Compromise Water Quality of Bon Terrain Aquifer

Letter to the Editor

The Town of Amherst is on course to compromise the pristine quality of the Bon Terrain Aquifer and the Pennichuck Watershed in the vicinity of Witches Brook and Peacock Brook. The Village of Amherst and the Wal-Mart area of 101A gets its drinking water from the Bon Terrain Well (BTW) on the banks of Peacock Brook. The Bon Terrain industrial park on the north side of Peacock Brook is being developed piece by piece very rapidly. The Amherst Planning Board approved an enormous warehouse for FW Webb to store toxic chemicals and other materials last Wednesday. We do not even know the full extent of the developments in the Bon Terrain area. Earlier at the same meeting, they tabled the 77 unit Summerfield Condo project on the south side of Peacock Brook for two weeks a which time they will put conditions on the development.

The Summerfield Condo development will have 27 septic systems on 57 acres. The season high water table in numerous parts of the Summerfield Condo area is only 3 feet below the ground surface. The water is covered by sandy soil that percolates at a fast two minutes per inch according to site plan documents. I would not be surprised if it is not even faster in some areas. High water transmission rates through the soil coupled with short distance between the surface and the water table is a serious potential water table contamination problem. It is documented in the scientific literature in a number of articles (which I will not bore you with here) as being a potential pollution problem. Not only is this a problem, but also the western portion of the Summerfield Condo is in the cone of contribution of the Bon Terrain Well. Calculations suggest that about 0.2% of septic system input will make it to the public water supply well during rainy times and maybe more during dry times.

What does that mean? It means simply that the Bon Terrain Well will collect water from the septic systems and surface water run off. The surface water will contain fertilizers, pesticides, or other toxic runoff no matter how careful people are in handling these materials. The septic systems from the Summerfield Condo Complex will be dumping about 24,000 gallons per day of waste into the ground. That is 8,760,000 gallons per year. That is a lot of waste going into the aquifer.

One really needs to do an environmental impact study of this project along with the other projects at the industrial part of Bon Terrain. The Planning Board has had that request made by the Pennichuck Brook Watershed Council, indirectly by the water study done by ENSR through their disclaimers, and by Jaworski-Geotech of their review of the ENSR study. Dr. Michael Burke (Jaworski) recommended further study of the time of travel and a few other parameters, and the inclusion of some special septic systems that would minimize the release of untreated wastewater into the ground water. The Planning Board rejected all these recommendations.

The Planning Board called the meeting June 4th as a public meeting, but public comment was greatly limited. The Chairman, Sally Wilkins, said only new comment about the studies could be discussed and she refused to let people talk about traffic and other issues. People with written presentation were not allowed to present their information.

This letter to the editor is to alert the public about the potential negative cumulative impact of these developments in Bon Terrain on the public drinking water well. This rapid development of the Bon Terrain area without a proper environmental impact study in my opinion is shortsighted and totally risky. The downside risk is the contamination of the BTW and the destruction the trout fishery in Peacock Book and Witches Brook. The costs of the EIS would be the expense of the developers. The desire to get fast tax revenue seems to have blinded the town officials to proper do diligence.

The future contamination of the drinking water coming from the Bon Terrain Well will be the full responsibility of the full Planning Board and the Board of Selectmen lead by Sally Wilkins and Marilyn Peterman. These people are fully aware of the potential problems with these developments and refuse to entertain a definitive study of their impact. The board used napkin calculations to estimate the expected amount of nitrates that will be in the drinking water and found that they would be less than a factor of 2 or 3 the levels necessary to cause blue baby syndrome. That is too close for this for this physics.

I recommend that the citizens of Amherst take a hard look at these developments and demand an environmental impact study to determine what measures need to be put into place to minimize the potential damage to the drinking water supply and Peacock Brook. A measurment of the time of travel for the water to move from the condo site to the BTW is necessary. The literature says that high conductivity; short distance from the soil surface to the ground water has a high risk of contaminating the ground water. Once these developments go in, one will not be able to go back. If the water supply is contaminated, the costs could be significant to human health and to the water ratepayers.

Allan Fuller, Ph.D.
Chairman
Pennichuck Brook Watershed Council
93 Taylor Street
Nashua, NH 03060
603 886-5555 Office Phone
603 880-1947 Fax

The CABINET
AMHERST • LYNDEBOROUGH • MILFORD • MONT VERNON • WILTON
Milford, New Hampshire 03055 Thursday, May 15, 2003

Elderly housing delayed

Water, traffic concerns have neighbors protesting

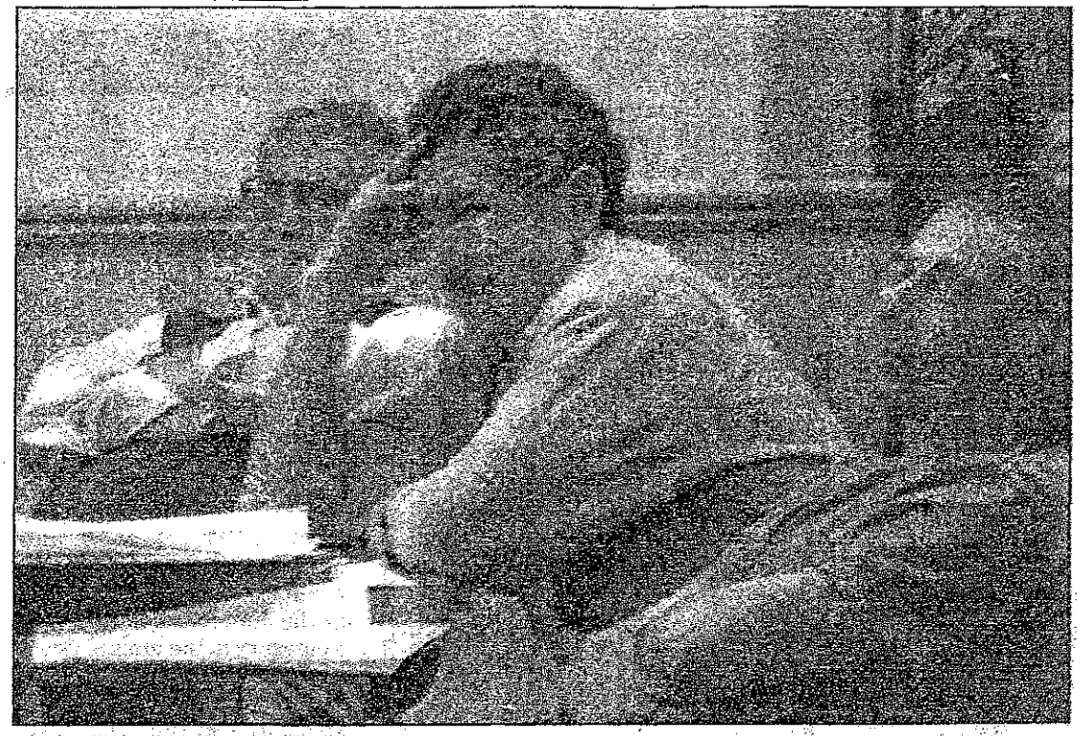
By Nancy Foster
Cabinet staff

AMHERST—Developers of a 77-unit senior housing project on Route 122 on the Amherst/Hollis line will have to wait at least another month before getting approval from the Amherst Planning Board.

Citing concerns over environmental issues, including potential damage to the Pennichuck Brook Watershed, Peacock Brook, and Witches Spring Brook, the board is requiring developers Richard Raisanen and Mark Prolman to have independent experts review the results of studies they prepared at the board's request.

Neighbors of the proposed development also cited concerns about traffic on Route 122, particularly on Sundays when the Hollis Flea Market is open.

"I want somebody to look at the data and give



Nancy Foster photo

Members of the Amherst Planning Board listen to discussion about proposed elderly housing in the Bon Terrain industrial area.

us a professional opinion," said board member Donald Bouchard.

One study, conducted by Pennichuck Water Works to determine how pesticides, fertilizers, and other contaminants would affect water in the aquifer, was called into question by board members. Because Pennichuck serves to profit from the housing development from residents paying for water, board member Ben Frost said, "I'm uncomfortable using Pennichuck as our consultant ... in this case I feel an independent expert is needed."

Board member Gordon Leedy had another concern with the data. Because the study was conducted in April during the spring thaw, Leedy said, the concentrations of contaminants might seem lower because of the amount of water running into the aquifer.

"This report is full of assumptions," Leedy

ELDERLY HOUSING Page 1

said. "It suggests the results would be true at another time of year."

Board member Arnold Rosenblatt said earlier in the evening that having Pennichuck serve as the outside consultant was "peculiar, but I think it makes sense."

He later retracted that opinion and agreed with the call for an independent evaluation of the study.

"We're trying to encourage responsible development," he said.

Though the board did not request a new study, they did ask that the current study be evaluated and analyzed to determine if it appropriately addressed all issues.

Jim Edwards, representing Meridian Land Services on behalf of Raisanen and Prolman, said that the developers were going beyond doing everything required to ensure the condo project will have minimum impact on the aquifer.

Based on recommendations from Don Ware of Pennichuck Water Works, Edwards said that the developers have moved the site of

the leech field further away from the aquifer's well head and re-routed the path of the sewage lines.

According to Edwards, there will be monitoring wells located along the surface above the path of the groundwater flow towards the aquifer. Initially, the wells will be tested bi-annually to check for signs of nitrates, pesticides and other potential contaminants. Once construction is completed, the tests will be conducted annually.

The management at Summerfields will be responsible for ensuring that excess nitrates from fertilizers won't leech into the aquifer, said Edwards. They will conduct soil tests to determine what chemicals are necessary before treating the lawns.

"We will condition any products (including pesticides) used on the site based on approval from Pennichuck," said Sally Wilkins, planning board chairwoman. "We're not anticipating that individual people will be going around spreading fertilizer. We have much better control with this than we would if we had 15 single family homes."

But, Wilkins added, "The issue of what people put down their septic systems is huge."

Each tenant will be given an educational packet explaining the delicate nature of the aquifer zone, said Edwards.

Bouchard recommended that visitors driving onto the property be educated about the aquifer as well.

Somewhere at the entrance to this site, there should be a sign that says this is an environmentally sensitive area," he said.

Brad Westgate, an attorney for the developers, was not pleased with the board's decision to seek other opinions.

"Two months ago the board identified the water and hydrogeology issue, and the board didn't suggest to hire a third party environmental study. You haven't asked for that," he said. "We are self-regulating the water under the ground we own."

Westgate said that the studies were costing the developers a considerable amount of money and reminded the board that the plan has been before them since September.

"The clock is ticking," Wilkins conceded, "But the alarm is not going to go off."

Trout stream

The recent designation of Witches Spring Brook as one of only a handful of wild trout habitats in the state, was another concern.

According to Gabe Gries, a biologist for New Hampshire Fish and Game, Witches Spring Brook is "The most productive wild brook trout fishery in the state."

Witches Spring Brook is not part of the land being developed, but Peacock Brook, which runs along the northern boundary of the property, empties into Witches. The problem, in addition to pollution from the development, is the possibility of increased water temperatures.

The board requested that an independent expert examine the potential impact of the development on the brooks and provide recommendations on how best to protect them.

"There's been no study at all on Peacock Brook," said Edwards, who explained that the developers have volunteered to fund a state Fish and Game Department study to establish a baseline for water temperature in Peacock Brook.

But some residents felt the study might come too late.

"What will happen if results after the development is built show that there is damage to the brook?" asked Chris Lalmond of Hollis, who rented a car and attend the meeting. "Won't it be too late then?"

"Eighty percent of the recharge is going into the ground and cooling below the surface,' said Edwards, who said that the developers were working to avoid causing any damage.

Edwards also said that the area of the development running alongside the brook would be untouched by the developers and that the required buffer zone actually exceeds the required 100-foot minimum in most areas.

"The efficacy of the buffer zone will depend on what's in the buffer zone," Lalmond said. "What are you going to put in there?"

Wilkins said that the buffer zone is a "No soil disturbance area," meaning that no clearing, paving or other potentially damaging development could take place within the zone.

Traffic concerns

Residents along the stretch of Route 122, where the main and emergency entrances to Summerfields are located, are concerned that the developers' traffic study isn't adequate.

The study, conducted on a weekday afternoon last October, showed that the development would have no impact on traffic on Route 122.

Zoning board member Bill Burris questioned the validity of the study and said it was "supposed to be based on a worst-case scenario. The worst-case scenario is not an afternoon in October. It's the last Sunday of the month from May to September."

Burris was referring to traffic created by two flea markets and an antique auto show that are held at the end of each month throughout the summer when traffic is often backed up along Route 122.

Nancy Scott, who lives across the street from the proposed complex, said, "My main concerns have been the traffic. The last Sunday of the month, there's no way cars can get over for ambulances or fire trucks."

"The road is totally jammed," said Brad Tukey who owns the Hollis Flea Market. "You really should have the police department do an emergency plan for when the flea markets are running."

Wilkins asked Selectman Marilyn Peterman, a planning board member, to have

HOLLIS BROOKLINE JOURNAL

Volume 9, No. 20

Published by The CABINET PRESS INC

Hollis, NH 03049 Brookline, NH 03033

Friday

May 16, 2003

20 Pages

Free

Threat to Witches Brook?

Housing development delayed as neighbors protest

By Nancy Foster
Hollis Brookline Journal staff

AMHERST—Developers of a 77-unit senior housing project on Route 122 on the Amherst/Hollis line will have to wait at least another month before getting approval from the Amherst Planning Board.

Citing concerns over environmental issues, including potential damage to the Witches Spring Brook, the board is requiring the developers to have independent experts review the results of their studies.

Witches Spring Brook, called the most productive wild brook trout fishery in the state, is not part of the land being developed, but Peacock Brook, which runs along the northern boundary of the property, empties into Witches Spring Brook. The Pennichuck Watershed Council is concerned that pollution from the development will increase water temperatures and spoil the fishery.

Neighbors of the proposed development also cited concerns about traffic on Route 122, particularly on Sundays when the Hollis Flea Market is open.

"I want somebody to look at the data and give us a professional opinion," said board member Donald Bouchard.

One study, conducted by Pennichuck Water Works to determine how pesticides, fertilizers, and other contaminants would affect water in the aquifer, was called into question by board members. Because

HOUSING Page 12

Housing development delayed

as neighbors protest

From Page 1

Pennichuck serves to profit from the housing development from residents paying for water, board member Ben Frost said, "I'm uncomfortable using Pennichuck as our consultant ... in this case I feel an independent expert is needed."

Board member Gordon Leedy had another concern with the data. Because the study was conducted in April during the spring thaw, Leedy said, the concentrations of contaminants might seem lower because of the amount of water running into the aquifer.

"This report is full of assumptions," Leedy said. "It suggests the results would be true at another time of year."

Board member Arnold Rosenblatt said earlier in the evening that having Pennichuck serve as the outside consultant was "peculiar, but I think it makes sense."

He later retracted that opinion and agreed with the call for an independent evaluation.

"We're trying to encourage responsible development," he said.

Though the board did not request a new study, they did ask that the current study be evaluated and analyzed to determine if it appropriately addressed all issues.

Jim Edwards, representing Meridian Land Services on behalf of developers Richard Raisanen and Mark Prolman, said that the developers were going beyond doing everything required to ensure the condo project will have minimum impact on the aquifer.

From Don Ware of Pennichuck Water Works, Edwards said that the developers have moved the site of the leech field further away from the aquifer's well head and re-routed the path of the sewage lines.

According to Edwards, there will be monitoring wells located along the surface above the path of the groundwater flow towards the aquifer. Initially, the wells will be tested bi-annually to check for signs of nitrates, pesticides and other potential contaminants. Once construction is completed, the tests will be conducted annually.

The management at Summerfields will be responsible for ensuring that excess nitrates from fertilizers won't leech into the aquifer, said Edwards. They will conduct soil tests to determine what chemicals are necessary before treating the lawns.

"We will condition any products (including pesticides) used on the site based on approval from Pennichuck," said Sally Wilkins, planning board chairwoman. "We're not anticipating that individual people will be going around spreading fertilizer. We have much better control with this than we would if we had 15 single family homes."

But, Wilkins added, "The issue of what people put down their septic systems is huge."

Each tenant will be given an educational packet explaining the delicate nature of the aquifer zone, said Edwards.

Bouchard recommended that visitors driving onto the property be educated about the aquifer as well.

"Somewhere at the entrance

the developers, was not pleased with the board's decision to seek other opinions.

"Two months ago the board identified the water and hydrogeology issue, and the board didn't suggest to hire a third party environmental study. You haven't asked for that," he said. "We are self-regulating the water under the ground we own."

Westgate said that the studies were costing the developers a considerable amount of money and reminded the board that the plan has been before them since September.

"The clock is ticking," Wilkins conceded, "But the alarm is not going to go off."

Trout stream

The recent designation of Witches Spring Brook as one of only a handful of wild trout habitats in the state, was another concern.

According to Gabe Gries, a biologist for New Hampshire Fish and Game, Witches Spring Brook is "The most productive wild brook trout fishery in the state."

Witches Spring Brook is not part of the land being developed, but Peacock Brook, which runs along the northern boundary of the property, empties into Witches. The problem, in addition to pollution from the development, is the possibility of increased water temperatures.

The board requested that an independent expert examine the potential impact of the development on the brooks and provide recommendations on how best to protect them.

"There's been no study at

Department study to establish a baseline for water temperature in Peacock Brook.

But some residents felt the study might come too late.

"What will happen if results after the development is built show that there is damage to the brook?" asked Chris Lalmond of Hollis, who rented a car and left school at the University of New Hampshire in Durham to attend the meeting. "Won't it be too late then?"

"Eighty percent of the recharge is going into the ground and cooling below the surface," said Edwards, who said that the developers were working to avoid causing any damage.

Edwards also said that the area of the development running alongside the brook would be untouched by the developers and that the required buffer zone actually exceeds the required 100-foot minimum in most areas.

"The efficacy of the buffer zone will depend on what's in the buffer zone," Lalmond said. "What are you going to put in there?"

Wilkins said that the buffer zone is a "No soil disturbance area," meaning that no clearing, paving or other potentially damaging development could take place within the zone.

Traffic concerns

Residents along the stretch of Route 122, where the main and emergency entrances to Summerfields are located, are concerned that the developers' traffic study isn't adequate.

The study, conducted on a weekday afternoon last October

Cabinet May 6, 96

To the editor,

At the last board meeting of the Amherst planning board meeting, we, as the the abutters, on route 122 were advised to have a base line test of our wells done in case of disruption or contamination of our water supply. Our questiom is, "Why should we have to incurr the cost of testing of our wells that have been in existence long before this land was concidered for developement. We should be reassured by the builders that our water suppy will not be disturbed as they are the ones that are changeing the dynamics of the community not the other way around.

Secondly, will the buyers of these units be advised that they will not have prompt access to emergency help such as fire, police or ambulance on any on any Sunday from the end of April to the end of Oct. thur the hours of 9am to 3pm. Also could the town be held legally responcible if these emergency vehicles do not respond in a reasonable amount of time? Safety of, at the very leasy of 144 perspective 55 or older Amherst citizins should be be all of our first concerns. Please take the time to drive down route 122 on the last Sunday of the month around ten o'clock in the morning. The traffic is always backed up to 101A
for as much as one hour. How would an emerengy vehicle ever get thru to help a heart attack victim or anyone else who needed assistence immediately. There is no shoulder for vehicles to go around. Please also rememb er
that the antique car show has been here since the early sixties.and contributed alot to the community. Where will all the vehicles park except for the side of the road which is would make this situation even more differcult.

There will be a planning board meeting for any concerned citizins with questions on April 2'nd

The 1590 broadcaster

Amherst Brookline Hollis Hudson Merrimack Milford Nashua

A Division of The Sun *Since 1964* *Circulation Over 65,000* *May 15, 2003*

CONDO COLLISION COURSE

Proposed over-55 community in Amherst pits development against the environment

By JOHN COLLINS
The Broadcaster

AMHERST — Rather than "fish or cut bait," they have decided to wait and study the proposal some more.

A Planning Board debate on whether to approve construction of the "Summerfield Condominiums" project — a 77-unit, upper-income elderly housing development situated near a public drinking-water well off Route 122 near the Hollis line — lasted for three hours May 7 and included at least one wild-fish tale.

Attorney Brad Westgate, representing developer Rais-Crest LLC, said it was time for

Please see **CONDO/5**

Environmentalists argue that yellow speckled eastern wild brook trout in Witches Brook would be in danger if the development is approved.

N.H. FISH & GAME PHOTO

FROM PAGE ONE

Amherst development raises environmental concerns

CONDO/From Page 5

revisions to the project. They were made at the request of representatives of Pennichuck Waterworks, who reviewed a hydro-geological study paid for by Rais-Crest. The most notable change in the project, Edwards pointed out, was that Rais-Crest has agreed to move two leach fields farther from a 400-foot sanitary buffer bordering the Bon Terrain property, home to Pennichuck's 56-foot well. The Bon Terrain well supplies drinking water to customers along Route 101A and Amherst Village. Rais-Crest also plans to contract with Pennichuck to make the same well the primary source of drinking water for any new residents of the Summerfield condos.

"The only thing we would put in the buffer zone would be a walking trail," said Edwards, who also promised that Rais-Crest would erect a large sign at the entrance to the complex as part of an ongoing campaign to educate Summerfield condominium residents and visitors about the sensitive nature of the surrounding underground water supply and nearby brooks.

Despite Edwards' assurances that Rais-Crest would proceed with the utmost respect for the sensitivity of the surrounding aquifer, abutter Peggy Miller of Amherst voiced skepticism that the developer or the town could enforce rules ordering Summerfield residents not to

FROM PAGE ONE

Amherst development raises environmental concerns

CONDO/From Page 1

the Planning Board "to either fish and cut bait," as he urged the board members to give the Summerfield project a green light.

Instead, after listening to a stream of concerned neighbors and environmentalists raise concerns about well contamination, rising brook temperatures, and the possible death of a nearby wild brook trout population, the board voted to delay the matter until their June 4 meeting, when they hope to discuss results of two additional well-water and fish-health studies to be conducted (at Rais-Crest's expense) by one or two experts.

"The clock is ticking, but the alarm is not about to go off," Planning Board Chairwoman Sally Wilkins said.

Conceived as a tranquil retirement community to be located alongside beautiful Peacock Brook, abutting the Bon Terrain property in Amherst, the Summerfield housing complex is intended for residents age 55 and older in 77 condo units, each with a projected assessed property value in the neighborhood of $300,000 per unit.

Entering the Planning Board meeting, several critics of the project voiced fears that Summerfield's attractiveness as a generator of enormous property tax revenue for the town (comparisons show that an average of three school-age students reside in elderly housing developments of similar size) might cause town officials to turn a blind eye to the potential environmental damage that the project might cause.

"I urge this board to defer a decision until there are more answers than questions," said George Woodbury of Hollis, the former Public Works Director of Lexington, Mass, after citing his expertise in such matters as a retired 26-year member of the Army Corps of Engineers. "Let us not wait until after this project is complete to discover, in our haste to move forward, we made a serious mistake because it will be too late to reverse the damage."

Earlier, Jim Edwards of Meridian Land Services, representing Rais-Crest, presented the board and an audience of about 30 with an engineering map showing the latest

Please see CONDO/6

flush hazardous materials down the toilet, or not to use especially dangerous lawn fertilizers and pesticides.

Edwards later responded to Miller's comment by reminding the Planning Board that the project cannot be legally denied based on potential environmental violations by residents.

Chairwoman Wilkins agreed with Edwards, pointing out that if the board accepted Miller's logic — that environmental violations by some new residents will always occur — then the board would never be able to approve of any new development in town.

"In that case, why would we (the Planning Board) even exist?" Wilkins asked Miller in a moment of frustration.

Aside from asking the board to reject the Summerfield project based on possible drinking water contamination, Miller also cited a serious concern about the possibility the Summerfield development would raise the temperature of nearby Peacock Brook above 70 degrees, thus killing off the "rare" eastern wild brook trout population in Witches Brook, which Peacock Brook flows into. Miller cited a recent report by New Hampshire Fish and Game Department biologist Gabe Gries, who called Witches Spring Brook "the most productive wild brook trout stream in the state."

Among speakers

FROM PAGE ONE

George Woodbury of Hollis cited his experience in such matters during his 26 years with the Army Corps of Engineers to delay action on the project until more is known about the potential environmental impact. MEDIANEWS/JOHN COLLINS

Development raises concerns

CONDO/From Page 6

who joined Miller in voicing concerns about potential drinking water contamination and/or the elimination of the wild trout population in Witches Brook were Woodbury, Allen Fuller of Nashua, Ph.D., chairman of the Pennichuck Watershed Council; activist Mary Ellen Martin of Nashua; and Chris Lalmond, 19, a student at the University of New Hampshire. Lalmond, who grew up across the street from Witches Brook in Hollis, rented a car in order to have a chance to stand before the Planning Board and ask the question, "what happens if the development goes in and the trout die?"

While the developer's attorney, Brad Westgate, countered that the wild trout issue was a "red herring" that ought not to block the project, Planning Board members disagreed, acknowledging that Lalmond and the other speakers had raised important questions that needed to be answered before the Summerfield Condominiums project can move forward.

Letter to the Editor

A frightening education

To the Editor:

A few months ago, I really didn't have very much knowledge about aquifers or trout streams and how they could impact our environment. My husband and I attended both March and April's Amherst Planning Board meetings with a few questions concerning traffic and how this development could affect our well. After receiving no satisfactory answers, I started to educate myself.

Thanks to Mike Cleveland and Nancy Foster, who pointed me in the right direction, I started making phone calls. What I learned is frightening.

Allan Fuller, State Rep. Mary Ellen Martin and Peggy Miller took the time to explain to me what the impact that building 77 condos with 77 septic systems on top of our aquifer could mean, not only to Amherst, but also to the surrounding communities of Milford, Hollis, Nashua and Merrimack.

Let's pray that we never have a drought, as this is the last remaining well head in the area. If the developers build over it, where will we get our water? What will you and your families be drinking? Chemically treated water from a river? Keep your wallets in hand as you will also have hefty water bills as well.

Well folks, this is the time to stand up and say no more. Amherst has already allowed the building of Wal-Mart and a gas station on top of our water supply. I think there comes a time when money should not be as important as the welfare of our community.

Oh, by the way, these condos for 55 and older will be selling for close to $290,000, so if you old-time Amherst citizens are thinking of retiring in Amherst, I really hope you have fat wallets. The way I see it, only the wealthy are welcomed into the town of Amherst.

The next planning board meeting is Wednesday, June 4, at 7:30 p.m., at Amherst Town Hall.

NANCY SCOTT
Amherst

Development without environmental impact study is shortsighted and risky

To the Editor:

The town of Amherst is on course to compromise the pristine quality of the Bon Terrain aquifer and the Pennichuck Watershed in the vicinity of Witches Brook and Peacock Brook.

The Village of Amherst and the Wal-Mart area of 101A get their drinking water from the Bon Terrain well (BTW) on the banks of Peacock Brook. The Amherst Planning Board approved an enormous warehouse for FW Webb to store toxic chemicals and other materials last Wednesday.

Earlier at the same meeting, they tabled the 77-unit Summerfield condo project [illegible] time they will put conditions on the development.

The Summerfield condo development will have 27 septic systems on 57 acres. High water transmission rates through the soil coupled with short distance between the surface and the water table are a serious potential water table contamination problem.

Also the western portion of the Summerfield condo is in the cone of contribution of the Bon Terrain well.

What does that mean?

It means simply that the Bon Terrain well will collect water from the septic systems and surface water run off. The surface water could contain fertilizers, pesticides, or other toxic runoff.

The Bon Terrain well will be pumping about 560 gallons of water per minute or 806,400 gallons per day. Assuming that less than 50 percent (4,000,000 gallons/year) of septic waste will end up at the BTW, the drinking water could have as much as 2.6 percent septic processed waste water during dry times.

That surely makes one think about buying bottled water.

I recommend an environmental impact statement be performed. The planning board has had that request made by the Pennichuck Brook Watershed Council, and by Jaworski Geotech of their review of the ENSR study. Dr. Michael Burke (Jaworski) recommended further study of the time of travel, and the inclusion of some special septic systems that would minimize the release of untreated wastewater into the ground water. The planning board rejected all these recommendations.

This rapid development of the Bon Terrain area without a proper environmental impact study in my opinion is shortsighted and totally risky. The costs of the environmental impact study would be the expense of the developers.

I recommend that Amherst citizens take a hard look at these developments and demand an environmental impact study.

DR. ALLAN FULLER
President
Pennichuck Brook
Watershed Council

In 'best interest' of town?

To the Editor:

I'm writing this letter to let the taxpayers of Amherst know what their planning board is doing in the so-called "best interest" of their community.

Most of you know that there have been many meetings about the 77-union senior community to be built on Route 122 near the Amherst/Hollis town lines.

This would be over the aquifer that supplies many towns, not just Amherst. What I witnessed at the Wednesday meeting was enough to make my head spin. Not because of test studies and scientific terms, but the attitudes.

The heads of the planning board were very rude, curt and short with the citizens of Amherst, not to mention some of the press.

I understand that this is not an easy process to go through for the planning board, bit it does not really give the right to be rude. These kinds of headaches come with their job.

They also give the impression that they have already made up their minds and the meeting was just done to pacify the concerned citizens.

When the board was asked if the project "decision" was about money, the answer was "yes, it's all about money." When asked about the signed petition that we gave to them, their response was "that didn't matter."

Is this the kind of responsible, caring planning board heads that you want to make major decisions about what goes on in your community?

I know that when our family decided to buy our home land charm and setting. We have a great antique home that Witches Springs runs around. And that kind of setting is what told us this is the place to be, not the city.

So, in conclusion, I ask the Amherst Planning Board to say no at this time. We need more tests done and maybe reduce the amount of units to keep this area the way we would like it to be.

Don't make a mistake just for the bottom line, because once its there, you cannot change your mind. Don't make the mistake Hollis did with the Skyview development, because I know many people in Hollis are unhappy with what we got in the end.

Let's keep Amherst and Hollis the picturesque New England villages where we chose to live because of their charm and lifestyle.

LEANNE CATALANO
Hollis

By Nancy Foster
Cabinet staff

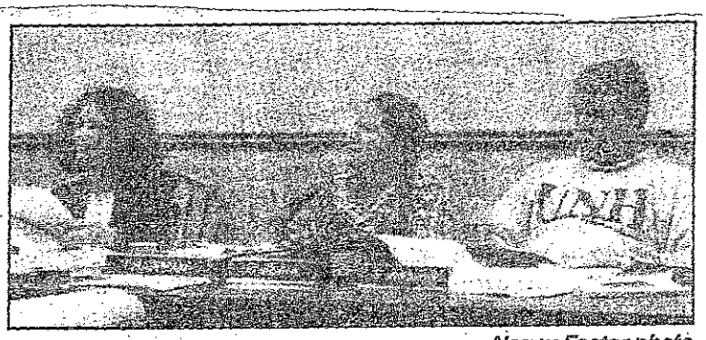
AMHERST—The planning board chairwoman is frustrated with both sides of the debate over an elderly housing project proposed for Route 122 on the Amherst/Hollis line.

So acute is this frustration that at the board's recent meeting, Sally Wilkins prefaced discussion with a list of things she refused to tolerate from the crowd of approximately 25 people who sat on either side of the issue.

"Keep it short," Wilkins said to a group of citizens opposed to the development. "Don't revisit previously presented arguments. If you want to change the zoning or planning laws, go ahead. But understand that the changes won't have any impact on this proposal."

And, in response to a comment made by the developer's attorney implying that the board was not moving fast enough to approve his client's application, Wilkins said, "I want it to be clear that this board is not obstructing the process."

Wilkins and the planning board have the dual position of having to work through the provisions of each proposal brought before them to ensure



Nancy Foster photo

Sally Wilkins, center, at a recent Amherst Planning Board meeting.

that the needs of the community are being met, while simultaneously keeping their decisions within the confines of the law.

"As a planning board," Wilkins said in a recent interview, "our responsibility and obligation is to make sure the applicant's proposal is legal."

The problem the board runs into, she said, is that members of the community don't understand the board's limitations, so they assume the board can deny an application arbitrarily. A petition against the development, signed by about 100 community members, was presented to the board by Nancy Scott, an abutter and active participant in the fight to keep the condos from being built. Wilkins agreed to take the petition but told Scott that the document would have no bearing on the board's decision.

"The people want to believe that they have a say in what goes on around them," said Wilkins, but the truth of the matter is that "sometimes they don't."

"We don't have the legal authority to stop something because we don't like it," Wilkins explained. "We have held our noses and voted for proposals we hated because they complied with the law."

According to Wilkins, New Hampshire is a state in which property rights are strongly protected by the Constitution, legislation and case law. Landowners have incredible flexibility to do what they want with their property, leaving town governments to orchestrate a balance between individual freedom and the communities' best interest.

Wilkins said the planning board works with the developer to "mitigate the impact" a particular proposal will have on the environment, schools, water supplies and other interests. In the case of the Summerfields project, the board has requested everything from an increased number of sidewalks to the relocation of leach fields away from the Bon Terrain well head.

developer see the value of instituting changes that will also help the public," Wilkins said.

Wilkins expressed frustration at the apparent lack of interest from the public regarding developments that don't directly affect their property.

"Most people don't pay any attention until it's in their neighborhood," Wilkins said.

She pointed to the 337,000-square-foot F.W. Webb building that will be going up in Bon Terrain, not far from the Summerfields development, as an example.

The Webb building [illegible]

land in the aquifer protection zone and yet no one presented any testimony against the building, which will store chemicals, diesel fuel and other potentially destructive agents. Though the planning board went to the same lengths to mitigate the environmental impact of the Webb building as they have with the Summerfields project, Wilkins said she is surprised by the lack of public participation in the discussion.

In fact, following the Summerfields discussion, all but two members of [illegible]

The CABINET
AMHERST • LYNDEBOROUGH • MILFORD • MONT VERNON • WILTON
Volume 201, No. 25 Milford, New Hampshire 03055 Thursday, June 19, 2003

Traffic *is* an issue in planning

To the Editor:

At Amherst's last planning board meeting, we did have an issue we wanted to share with the planning board, but were uncertain when the appropriate time was to approach the issue.

Two years ago, a man came down from northern New Hampshire to attend the car show. After he arrived, he, unfortunately, had a heart attack. Due to the traffic backup, it took the ambulance over 20 minutes to arrive. It should have arrived in less than five minutes. After they transported the man to the hospital, he later died.

Amherst doesn't feel that traffic should have any impact on the proposed housing for the elderly, which will be right in the middle of all this. We do hope that they will reconsider, as this could very well happen again.

Thank you for your attention.

ROSE FULLER
Amherst

More study needed

To the Editor:

We have been reading various news articles regarding the potential condominium complex, "Summerfield Elderly Housing" project on Route 122 in Amherst.

We are very concerned about potential pollution, as we abut a downstream area of Witches Brook. It is mandatory to protect the water for everyone's interest, as once it is polluted, Amherst residents will end up paying for the cleanup costs, and the water may be damaged forever.

We request that the project mentioned above not be approved until further studies are done.

FORREST and ELIZABETH WRIGHT
Hollis

Testing the waters

Amherst development could be problem for fish

Peggy

By Peggy Miller
Cabinet staff

Witches Brook and Peacock Brook are in wild, grassy areas where the water often flows in complex labyrinths of tiny canals among the reeds and rushes. Though busy roads are close by, there is a sense of another world, a safe harbor for birds, fish, deer and beaver.

On a recent day Gabe Gries, fisheries biologist for the New Hampshire Fish and Game Department, was setting temperature gauges in Witches Brook, which runs along the Hollis and Amherst town lines. He wanted to be sure he put the gauges where the two brooks meet and so it made sense to begin in Peacock Brook, which has a faster flow and wider channel in many parts.

Gries does this all over southern New Hampshire to note changes to rivers and brooks. In this particular case, a proposed development in the Bon Terrain industrial area of Amherst could affect the fish in Witches Brook by increasing sediment loads or water temperature.

Witches Brook is of particular concern, because Gries recently found an entire spawning and full life cycle area for wild brook trout here.

And he said it wouldn't take much of a temperature increase this summer to hurt the fish. "It is not that wild brook trout are that unusual, but such a large population in one area is very unique," said Gries, who grew up in Groveton, N.H. and said he's been fishing from the age of 3 when his grandmother took him to a small pond in Queens, N.Y.

With Gries on this trek were Allan Fuller, president of the Pennichuck Watershed Council, and a reporter.

TESTING WATERS Page 18

In photo right, Gabe Gries, fisheries biologist for New Hampshire Fish and Game, gets ready to set a temperature gauge in Witches Brook in Hollis.

Testing waters of development in Amherst

From Page 15

After stopping to check temperature gauges already in the water, and passing over at least seven beaver dams (a maneuver that required getting out of the canoe momentarily, balancing precariously on underwater branches and pulling the slight flick of his wrist, Gries hauled in a pickerel. But with the next cast, he landed a beautiful brook trout, stripped with red and yellow spots. In the wild trout rarely get as long as this one – a good seven inches. He released it and the fish swam away.

Gries resumed paddling and, after a while, Witches heightened current as well.

Gries called a halt to the paddling to place a new temperature gauge in Witches Brook, downstream of where Peacock Brook flows in. Fuller paddled the canoe further downstream while Gries and the reporter found high ground, and their cars.

Then Gries was off to give a speech on fish populations in New Hampshire. Asked if he found his work taxing, he said, "No, I love it. This was really a fun day."

Summerfields condo plan OK'd

Amherst plan board approves elderly complex on Hollis line

By Nancy Foster
Hollis Brookline Journal staff

AMHERST—The planning board last week voted to approve Summerfields, a 77-unit elderly housing project on Route 122 on the Amherst/Hollis line without requiring further analysis of environmental studies on the effect on the Bon Terrain aquifer.

Board member Arnie Rosenblatt, however, was concerned that an analysis of preliminary environmental studies was inconclusive because the geologist charged with analyzing the data, Michael Burke of Jaworski Geotech, was not given all available information.

Rosenblatt also questioned the impartiality of tests done by Pennichuck Water Works at the Summerfield site, saying that because the water utility would benefit financially from the project, it lacked the independence required for an unbiased study.

Sally Wilkins, chairwoman of the board, and member Roger Smith agreed with Rosenblatt. Wilkins said that she would have felt more comfortable knowing that all of the data, not just part of it, was given a second look.

The rest of the board, however, appeared ready to vote and showed no interest in pursuing further studies or analyses.

"Maybe we've only done 99.5 percent," said board member Donald Bouchard, "but is it worth going back and filling

SUMMERFIELDS Page 3

Summerfields

From Page 1

in that half a percent?"

According to Rosenblatt, the answer was yes.

"This in an irrevocable situation," he said, because "we're talking about drinking water."

Bouchard, though admitting several times during the course of the meeting that he didn't understand much of the information presented by Burke, was vehemently against taking the extra measures Rosenblatt recommended, including giving Burke a chance to analyze the data in total and getting answers to questions such as, "Why does 'time of travel' matter?"

Bouchard's opinion was bolstered by members Gordon Leedy, Ben Frost and Marilyn Peterman.

"You either accept the information or you don't," said Peterman, who during the course of the meeting had many private discussions with Leedy and Frost. "We received the information that we requested, and now we have to make a decision."

"I think people are reaching conclusions based on assumptions," countered Rosenblatt who felt that Burke didn't have the information he needed, and didn't present the board with a recommendation that Rosenblatt said, "gave me a level of comfort that we're doing the right thing."

The board voted to forgo any further studies and approved the condominium plan.

"It's extremely unfortunate that this has happened," said Mary Ellen Martin, a member of the Pennichuck Brook Watershed Council, an environmental watchdog group, who had followed the proceedings for several months. "That data had holes in it like Swiss cheese."

Martin was particularly distressed by Bouchard's opinions.

"He didn't understand the questions he asked," she said, "but he was the first one to say he was ready to run with it."

Nancy Scott, an abutter to the development said, "If there's even a question, you do it again until you get the answers you need."

Residents opposed to the development have been granted an appeal hearing regarding permits issued to the developer by the New Hampshire Department of Environmental Services in August.

According to Amherst resident Peggy Miller, the group is looking into bringing the case before the Superior Court.

"We're interested in appealing," Miller said, "and we're looking into it."

More water concerns

To the Editor:

I wish to add my concern to the Letters to the Editor of this paper about the Summerfield condominium [illegible] this development becomes a reality.

This will impact on all ratepayers of Pennichuck Water, and is a situation not to be disregarded or treating [illegible] His advice for further [illegible]

THE AMHERST CITIZEN

June 26, 03

Summerfield Condos Project Tabled By Planning Board

No big rush to approve elderly housing project.

BY CLIFF ANN WALES

"It's a huge project, and I want to take more time to review all the information we have," said chairwoman Sally Wilkins as she tabled the Summerfield project for two weeks.

For three hours in a crowded meeting room with lawyers, developers, experts on water, fish and fertilizer and annoyed abutters, the Amherst planning board listened to advice from experts as they continued to review a project for 77 elderly housing condos to be built on Route 122 near the Hollis town line.

To start the meeting Ms. Wilkins told the audience that "We're not revisiting old material. I will gavel you down if you try to rehash old material," she said.

In addition, she advised speakers that they are expected to back up any allegations of inaccurate material. "The material presented here is presumed to be factual and professional. It has been sent out for review and expert opinions," she said.

"This board," she continued "is prudent, methodical and not obstructionist."

She explained that the project was being reviewed for compliance with the law. "If you don't like our zoning laws, there is a process by which you can change them. I'm not going to entertain those discussions tonight. It's irrelevant."

Mark Prolman and Dick Raisanen are the developers of Summerfield, an elderly housing project of 77 condos on land owned by Tamposi. Because of the location there is a potential for contaminating the Bon Terrain well and the surrounding aquifer. The Pennichuck Corporation is concerned about water, pesticides and hazardous material in drains. It is reported that two bedroom condos will sell for approximately $350,000.

Michael Burke, a hydro geologist with Jaworski Geotech voiced his concerns with a previous report submitted by ENSR International and made the following recommendations: a constant rate pumping test should have been performed, initiate water level management in the surrounding brooks (Peacock and Witches Spring Brooks), perform mounding analysis and nitrate loading, place controls on irrigation systems, install one or two more monitoring wells and a need for more protection for leaching fields and treatment systems.

Mr. Burke also said, "I don't want to sound like an alarmist but it's my job to advise the town to be careful. Based on my experience it may be prudent to do an alternate septic system because the leach field is close to the Bon Terrain well and cone of influence."

Ms. Wilkins said that the biggest concern in everyone's mind is the dumping of a contaminant in to the system. The development is inside the aquifer recharge area.

Jeffrey Orchard, an environmental studies expert reported that there will be no effect from the discharge of storm water into

Condos | page 3

Condos | continued from page 1

Peacock Brook. The water temperature will not be raised. The water temperature was a concern because of the fish population in the brooks.

Tom Morin of Morin's Landscaping and Lawn Service presented a detailed environmentally friendly lawn and pest care program for this highly sensitive area.

Planning board member Don Bouchard said, "The differences in the ENSR report and the Jaworsky hydrology report are very minor. I'm not comfortable asking the applicant to bring back another report. My conscience is clear."

Ms. Wilkins said she wanted to see more calculations on the nitrate loading with the landscaping numbers added in.

The Summerfield project falls under the federal guidelines for elderly housing. Residing in 80% of the units must be at least one person 55 years of age or older. This restriction applies in a resale also. 20% of the units have no age restrictions.

Resident Peggy Miller who presented research on leach fields to the planning board later said, "Expert testimony and research indicates reason to postpone development of Summerfield until more study has been undertaken. I am shocked that the planning board appears to be disregarding the information and ignoring abutters concerns when they have the right to say no to this development if drinking water quality is threatened."

Concerned citizens weren't pleased with many of the answers to their questions. Nancy Scott presented a petition with signatures from fifty residents requesting that the application be denied.

In response Ms. Wilkins said, "Petition signatures has no bearing on the board's decision on how land is to be developed. Being opposed is not a legal reason for approving or denying an applicant. Our decisions are based on the law and whether the applicant has addressed the law."

The application was tabled for two weeks for review. It will be untabled at the June 18th meeting with no public input.

June 26, 03

To the Editor,

I attended the Amherst planning board meeting on June 19'th when the board approved the building of 77 condo units on top of the regions aquifer. There were board members who voted not to have any further studies done on the pumping capacity of the well head as well as another study done on the nitrate levels. One of the board members acknowledged that he really did not understand the findings that the independent engineer advised but voted not to have any more tests done anyway. It is also my understanding that one of the board member is employed by Stabile real estate which would have a direct conflict of interest so therefore should not have been allowed to vote. I have been told that Mr. Stabile is directly related to the owner of the land which this development will be built. We hope that the town will reconsider as this could impact the whole region in the future.

Thank You for Your Attention;

Nancy Scott

More water concerns

To the Editor:

I wish to add my concern to the Letters to the Editor of this paper about the Summerfield condominium development.

I refer especially to the very professional and caring letter by Dr. Alan Fuller. His letter contained many hard facts about the future contamination of the water supply coming from Bon Terrain if this development becomes a reality.

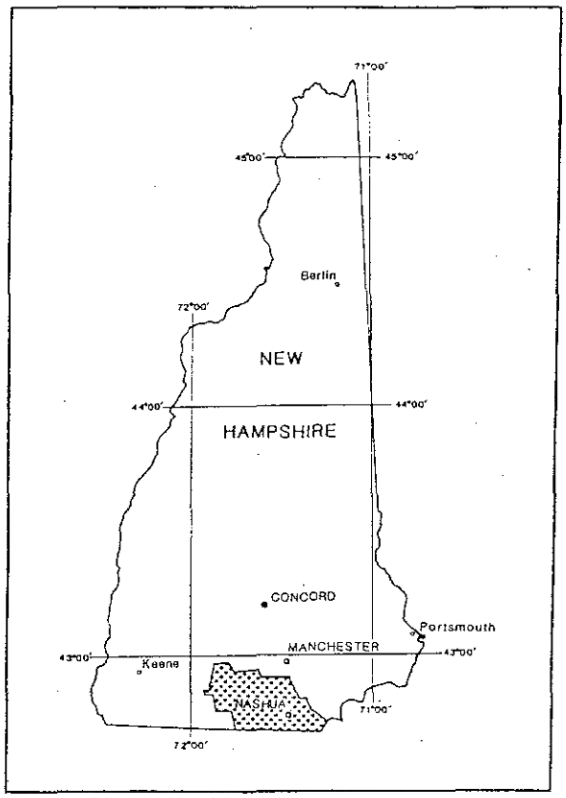
This will impact on all ratepayers of Pennichuck Water, and is a situation not to be disregarded or treating lightly. His advice for further environmental impact studies is a wise and prudent recommendation.

MARGUERITE BROCKWAY
Amherst

Hydrogeology of Stratified-Drift Aquifers and Water Quality in the Nashua Regional Planning Commission Area, South-Central New Hampshire

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 86-4358



Prepared in cooperation with the

NASHUA REGIONAL PLANNING COMMISSION and the

NEW HAMPSHIRE WATER RESOURCES BOARD

aquifer storage volumes and for predicting aquifer yields, an average value of 20 percent was assigned to aquifers of the region, although higher (30 percent) storage coefficients are commonly assigned to the coarse-grained materials and lower values (10 to 20 percent) to the fine-grained materials.

Aquifer Descriptions by Town

Amherst

The town of Amherst encompasses a land area of 34.2 mi². Stratified-drift deposits cover approximately 13.5 mi², or 40 percent of the town (fig. 1). Stratified-drift aquifers are widely scattered throughout the town and vary greatly in areal extent and saturated thickness (pls. 3 and 4).

The largest aquifer in Amherst is located along the Souhegan River, extending from Milford to Merrimack and southward to Witches Brook. The deep, central part of this aquifer consists of 25 ft of coarse-grained sand and gravel overlying 75 ft of fine-grained materials (wells W-62, W-63). Near the Milford line along its western edge, at the mouth of Beaver Brook and toward Witches Spring, the stratified drift is coarse grained. Although the saturated thickness exceeds 100 ft in the center of this aquifer, usable saturated thickness is limited to about one third to one half of that shown on plate 4 because of the low permeability, fine-grained stratified drift under the coarse-grained material. In the coarse-grained material near the aquifer boundaries, saturated thickness is less than 60 ft. Transmissivity is greater than 8,000 ft²/d throughout most of this area. Municipal wells in Milford (wells W-73, W-74), which pump 400 and 700 gal/min, respectively, are at the western end of this aquifer near the Milford town line. Merrimack well W-146, which pumps in excess of 500 gal/min, is located in the southeastern part of this aquifer in South Merrimack.

The Amherst village district well (site W-11, 18) is located in the stratified-drift deposit south of the town center along Beaver Brook. The well yields 200 gal/min from coarse-grained sand and gravel that has a saturated thickness of about 70 ft. Saturated thickness decreases upstream from this point.

Transmissivity of the Beaver Brook aquifer generally is less than 8,000 ft²/d, except near the mouth of the brook where it exceeds 8,000 ft²/d. Additional municipal supply wells might be possible in the permeable material downstream of the current town well where the extent and saturated thickness of the aquifer are greatest and where supplemental induced recharge from Beaver Brook could be obtained.

East of the Beaver Brook watershed, the small aquifer that extends northwest to southeast from Baboosic Lake Road to Upham Road has less than 40 ft of saturated thickness. Coarse-grained material overlies fine-grained material, and transmissivity is greater than 8,000 ft²/d in the central part of this aquifer.

Brookline

Stratified drift occupies 6.3 mi² or 31 percent of the total land area of Brookline. Continuous stratified-drift aquifers are in the river valleys throughout the center of town (pls. 1 and 2).

Aquifers along North Stream, Village Brook, and the upper Nissitissit River have a maximum saturated thickness of 50 ft or more. Near Pine Grove Cemetery in southern Brookline, the stratified drift consists of about 30 ft of permeable sand over 50 ft of relatively impermeable, fine-grained sand. The part of this aquifer that yields water freely, therefore, is limited to the top 30 ft. Other aquifers, located along lower Nissitissit River, Wallace Brook and Stickney Brook, Rocky Pond Brook, Spaulding Brook, and Scab Mill Brook, have saturated thicknesses that generally are less than 40 ft.

Stratified-drift aquifers with a transmissivity of at least 8,000 ft²/d border the upper and lower Nissitissit River, Village Brook, and North Stream. These aquifers have the greatest potential for the development of municipal supplies. Within the lower Nissitissit River valley, the town of Pepperell, Mass., uses water from the aquifer near its boundary with Brookline, N. H. A 500-gal/min gravel-packed well is located in Hollis along the Nissitissit River near the Brookline town line.

Transmissivity throughout the remainder of Brookline generally is less than 8,000 ft²/d. Large capacity wells, installed near streams in these lower transmissivity aquifers, could augment their yields by induced infiltration. The remainder of the aquifer is suitable for the development of wells that could yield 5 to 10 gal/min--a quantity that would be suitable for an individual household.

Town of Amherst, New Hampshire

Sewer Study

Phase I

Aquifer Evaluation

June 1986

COSTELLO, LOMASNEY & deNAPOLI, INC.

Consulting Engineers

Manchester, New Hampshire

and

GOLDBERG-ZOINO AND ASSOCIATES, INC.

Geotechnical Consultants

Manchester, New Hampshire

also generally have high solubilities and move rapidly with the groundwater.

When a contaminant is introduced into the groundwater, concentrations can be very high near the point of introduction. As the contaminant moves with the groundwater, it disperses over larger and larger areas. Although the compound will be diluted as it travels, allowable limits could conceivably be exceeded.

For example, the aquifer underlying the Bon Terrain area contains a volume of approximately three billion gallons of water. If three gallons of a highly toxic contaminate were to be dumped down a septic system and distributed evenly throughout the entire aquifer, the resulting concentration would be 0.001 mg/l. For some contaminates, such as vinyl chloride, this is the maximum allowable limit for safe drinking water. Obviously, the area of contamination would not be the entire three-billion-gallon aquifer, but a much smaller area with a smaller volume of water. This limited area of dispersion would cause the contaminate concentration to be greatly increased in the contaminated area.

Mr. Michael R. Deland
Regional Administrator
U.S, Environmental Protection Agency
New England Office
JFK Building, Government Center
Boston MA

24 Ponemah Hill Road
Amherst NH 03031
December 27,1988

Dear Mr. Deland;

I was heartened by your letter to the Milford Cabinet that was published a few weeks ago. It is good to see that the EPA is taking an aggressive stance against those who are destroying our natural resources. I only wish that we had known about your program a few years ago.

The residents of Southern Amherst have been complaining to the Town of Amherst New Hampshire forseveral years about the earth moving and blasting that has been going on in the Bon Terrain Industrial Park. More than half of this 650 acre park has been prepared for development by cutting down all the woods,stripping off and selling all the topsoil and performing extensive earth moving operations. What is left behind looks like a manmade Sahara.

The earthmoving operations in the park included the removing of a stream and wetlands by the digging of a gigantic ditch which traverses the park for approximately a half mile. Although much irreperable damage has already occured, there is still time to save the rest of the park from similar treatment.

The Bon Terrain Industrial Park lies directly on top of a 3 billion gallon aquifer. Industrial uses such as light manufacturing are still permitted in spite of the fact that engineering studies have warned that a three gallon spill into the sandy soil could raise contaminant levels above the maximum allowable values. In the adjacent commercial zone, also above the aquifer, the Town has permitted the construction of a large fuel oil storage tank and a truck filling operation. There are currently no efforts underway to monitor the groundwater contaminants.

This is a time bomb waiting to go off which has the potential of destroying the future water supply of the whole area. I would like to make a formal complaint about the wetland destruction going on in this park and the request that you send an inspector from your office to recommend corrective action and a future course that will prevent the destruction of our natural resources. Since I am unfamiliar with your procedures, I would also like to request that you inform me of the proper way of lodging such a request if this letter is not sufficient.

For your information, I have also enclosed a copy of a letter that I have sent to the New Hampshire Department of Transportation outlining objections to proposed bypass routes in the same area. All of the proposed routes of the bypass appear to cross significant amounts of wetlands as well as the acquifer. At least two of these routes traverse wetland properties owned by the Audubon Society.

I am hoping that your office will be able to help us protect the environment in this area. Unfortunately, many of our Town and State officials seem unwilling or unable to oppose the large development interests that are backing the above-mentioned projects.

Thank you for your attention to this matter.

Respectfully yours,

COPY

John H. Conaway

cc. Michael Kern - Wetlands Section

SEWER PETITION MEETING

TOWN HALL - MAY 11, 1988

Promptly at 7:00 p.m., a special public meeting to determine the need for sewers in the Bon Terrain area was called to order by Chairman Cummings. Present were Selectmen Overholt, Silva and Peterman with Selectman Verrochi arriving at a later time; petitioners Nash and Tamposi; Linda Dahlmann representing the participants in the two sewer studies which were privately funded; Tom Seigle from New Hampshire Water Supply and Pollution Control; Tom Sommers from Costello, Lomasney & deNapole, the engineering firm which conducted the studies; Harry Smith from Nashua Regional Planning and about 30 members of the public. After welcoming the attendees and briefly outlining the purpose of the meeting, Mrs. Cummings turned the gavel over to Moderator Robert Schaumann.

Moderator Schaumann: Mrs. Dahlmann you are recognized to review the steps taken to get us to this point tonight.

Linda Dahlmann: This has been my prime interest for four years, ever since I first was on the Board of Selectmen. The need to protect our primary aquifer in the Bon terrain area was obvious to us all. However, there was no money available from the Town so a sewer study committee was established. It soon became evident that we needed professional counsel and the sewer study committee hired Costello, Lomasney & deNapole as consultants. The funds to pay for both Phase I and Phase II were privately raised by myself from the owners of the property in the area of the study. We are now ready to move on.

Some questions were asked from the floor. Mr. Schaumann suggested that these be held until all presenters had been heard from.

Jerry Nash: Speaking for the petitioners, both water and sewer were contemplated. However, Southern New Hampshire Water has taken over the franchise for water. This was the results of many years of work during which we funded the exploration by the Town for water. We back Linda Dahlmann's approach to institute a sewer in the area. We drew up the petition for the district and the majority of the landowners in the designated area very much want the sewer district.

Moderator Schaumann: Tom Sommers would you like to explain your study?

Tom Sommers: There were two parts to be considered, the collection of the effluent and the treatment before discharge. We believe that a secondary plant will be required by the State although further study may show that the river will require a higher degree of treatment. Dick Flanders gave us a preliminary opinion that

given the data we were able to develop the Souhegan seemed able to handle the problem according to their computer model. We suggested five zones to be built over a period of time. We think the initial cost will be $6.9 million with a final cost of an additional $5.6 million. We believe the plant should be built with expansion capability at the onset. There are 630 acres in the study area. In today's dollars, that is $20,000 initial costs and with a 20 year bond, this will work out to between $1500 and $2500 per acre plus maintenance. Mr. Seigle have you anything to add?

Tom Seigle, N.H.W.S.P.C.: Well, what we did was ballpark the project. We had no detail, this will be the next step. We do know that you will need some form of advanced treatment. The system can't be too small ... it must be expandable and meet state design standards. We also need the details of the long-range financing proposed. Your septage problem should receive some consideration. And, of course, you will need a Federal EPA discharge permit also. Perhaps Harry Smith could speak to the septage problem.

Harry Smith: We have been studying septage for five years, ever since the state mandated that each town care for its own septage and provide the plan for this which will cover the next seven to ten years. The four towns in the S.R.L.D. have been looking at the different options. Nashua, Merrimack and now Milford have turned them down - Milford at the 11th hour. What is left is very limited ... Manchester, Lawrence, Mass, a stand-a-long plant such as we are discussing tonight or land spreading in each town. We have Federal grant money which we could add to construction.

Norman Katz: (citizen and President of the Homeowners Association in Pilgrim Hill). What is the cost of operating and maintenance?

Who? Tom Sommers: We estimate $500,000 per year.

Mr. Katz: Where will the plant be located?

Mr. Sommers: Either in Bon Terrain or near the river. We haven't determined.

Mr. Katz: We in Pilgrim Hill would object to the Bon Terrain location. We would be down wind from the plant and would get the odor.

Pixie Lown: There is a long term consideration. Can the plant be enlarged? Will it create beneficial growth?

Mr. Sommers: We studied this and yes, the plant will be configured to expand.

Mrs. Cummings: The Board of Selectmen have been seeking expansion of the Bon Terrain area. We are concerned with the financial impact of this construction and hope that its presence would be beneficial to the Town by generating tax base.

William Overholt: Why is the district so limited? There seems to be residential property within very close proximity ... Eastern Avenue for example. It is dense enough down there to include other locations and to spread the cost over a larger number of people.

Mr. Nash: We very much want to see this project go. There are over 100 businesses in the area who want this to happen and are willing to pay for it. However, we felt the fewer people involved in the initial setting up of the district, the more likely we would have the district. It is to be initially put in a place where people all want it. They could expand the district where there was support later on. It is too soon to do it right now.

Carol Rolf: I am an attorney representing Marina Development and, although they want the installation, I am concerned with costs.

Selectmen: The district, when formed, will determine how that will be done. It is not a matter for this meeting.

Tom Sommers: Cost gets complicated. It can be done in several different ways. It could be front foot or per acre or assessed value for capital costs and by flowage for operating and maintenance.

John Vinsel: Won't this increase density? What does the Planning Board say about this?

Tom Sommers: Well, it could go either way depending on what is marketed and attracted to the industrial park. This was taken into account in our study.

garbage

Mr. Overholt: Lack of water and sewers now control the density. Sewers will allow more density, that's for sure. We need to be aware of the consequences and be governed accordingly.

Cynthia Dokmo: A sewer would be great for the industrial park to have. It will allow development to the full potential and help save the aquifer. However, if it creeps into the surrounding residential neighborhood, it might increase density and cost the Town in services. We should do a study to show what the ripple affect of the sewers might be. What are the economic and social implications? What will the cost be for increased services?

Roger Smith: We don't need high rises in the area. It would change the complexion of the Town.

Peter Wells: We should not only be concerned about density, though we need to look at it. This is a window of opportunity being offered to the Town. We might get more for our tax dollars when the park is full. We should look at a controlled density which would accomplish both.

Chris Shank: Is there any relationship between the boundry of the sewer district and the sewer and if so what is it.

Tom Sommers: Yes, there is. It is over a major aquifer and our principal aim is to protect it since the source of a 1,000,000 gallon per day well is that aquifer, which is now servicing both residential and commercial customers. We would not make it any smaller a district for this reason. Larger maybe, not smaller.

Chris Shank: What does sewers do to the value of property. Isn't it more valuable to the developer?

Mr. Nash: Of course, it is worth more per acre. We don't figure to make a whole lot more, since we have to pay for the sewers. But it makes marketing the parcel much better. We don't want to sell to small users. It makes for a rinky-dink park. We need big users who don't want to go into a park which has septic tanks. They are too much of a problem. Septic does not attract quality users, therefore, you get a smaller return on the tax dollars.

Kenneth Howe: I don't understand how you can guarantee that sewers will prevent dumping into the aquifer.

Tom Sommers: You would not have legal drainage into the aquifer as you do now with septic tanks. You would have to have land spreading or a pit which would be very obvious and easy to spot. Septage is intended for domestic use only but you really can't control how they are used. In an industrial area, you have a large potential for contamination. With a sewer you can immediately identify leakage. You have control over what flows through by the monitoring which is required by federal regulation with each user's effluent checked.

Mr. Overholt: It is illegal, by regulation, to put certain substances into sewers.

Mr. Seigle: It shows in a treatment plant almost at once. You see it right away and can find the responsible party pretty easily. With a septic tank, it often takes months before the product leaks into a water source and is discovered. Then its hard to find the culprit, if it is possible at all.

Mr. Katz: I would like to bring this to the homeowners of Pilgrim Hills. Can you delay your consideration of this project until after our meeting next Monday? I think your dollars are very optomistic. I think you need more than ten residents to vote for this. You will need more treatment that you are outlining. I have concerns.

Mrs. Cummings: We meet also on Monday. Can you get your peoples' views to us then?

Chet Hall: Why was 122 not included? How come some people and not all were notified?

Mrs. Landry: We notified only the abuttors directly involved. 188 invitations went out but this is a public meeting. It was both posted and advertised. Anyone could come.

Mr. Sam Tamposi: You can change the boundries. You can change how you charge ... You can increase or decrease the size. You will get more tax at less cost. You cannot do anything unless you set up a district. The government is still giving grants for this kind of project and you do need to look ahead.

Douglas Heaton: There are many ways to assess costs. We should not get hung up on these. The district decided.

David Jasper: Is connecting optional?

Answer from several: This is a district decision not proper to this meeting.

John Silva: The district has to be established before any of this can be discussed. The establishment of a district is the job of the Selectmen.

Dick Spargo: I live on Eastern Avenue and have a shallow well. What will both the Bon Terrain water and/or sewer do?

Tom Sommers: We looked at that too. We do not feel Eastern Avenue is in the drawdown area of the well.

Tom Seigle: If the district is formed, we (the State) has to approve it. It will have to have officers who function. This meeting does not address any of these concerns.

Mrs. Dahlmann: To create a district, allows us to get all this information. The district will fund the studies. It will give the people the ability to decide if they want to continue with the district, how to assess property and costs. This is their choice to be controlled entirely by the people.

Roger Smith: May I remind you of the density water and sewer allows. Why is the district so limited?

Mr. Nash: We want very much to see this accomplished and we tried to assure it by asking those people to be co-signers.

Cynthia Dokmo: Who determines if it is expanded?

Answer: The Selectmen.

Ruth Howe: When would all this happen?

Tom Sommers: It would be built in stages. The first stage probably would be four to five years in planning and development. I would expect a total built within 40 to 50 years. It is a very long term project.

Mr. Tamposi: This first district will be as much a planning district as anything. Mr. Nash and I would be willing to contribute $250,000 to the district for planning purposes. However, we have spent considerable money in finding and developing water and in the sewer study. We are not ready to do this without a district. We need some assurance that we may possibly have a district.

Charles Stickney asked about the plans for density and noted that there were very few large acreages available in the area.

Tom Seigle: If this is such a pressing need for the Town, perhaps you should consider the possibility of the whole Town becoming the district. It would certainly spread the cost. You certainly must have it if your industrial area is to expand to its full potential.

Linda Dahlmann to Mr. Seigle: The preliminary plans should not take too long, we have done so much ground work.

Tom Seigle: That's correct. You need to get the ball rolling.

Mr. Vinsel: Do you feel putting a sewer district in is in accordance with the long-range plans of the Town.

Selectmen: We hope so but we certainly need more information as to cost of services, impact and the like.

Question: How much will have to be raised by the district to obtain the needed information?

Tom Sommers: Probably between $100,000 and $200,000.

Question: Could this be raised by a special assessment and not a district?

Answer: Probably not. We need the guarantee that the proper steps afford.

Question: Where are the petitioners ... ~~the ten who signed~~? Only David Jasper is here?

Question: Can we expand those that vote in any way?

Answer: We doubt it but we will contact Counsel and the State and be sure.

The meeting adjourned at 10:00 p.m.

ATTEST:

Barbara H. Landry